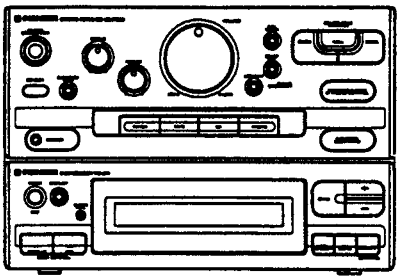
PIONEER
The Art of Entertainment

Service Manual



ORDER NO.
ARP2452

STEREO RECEIVER

SX-P520

SX-P520 HAS THE FOLLOWING :

Type	Power Requirement	Remarks
HE	AC220V–230V, 240V (Switchable) *	
HB	AC220V–230V, 230–240V (Switchable) *	
HEWZI	AC220V–230V, 230–240V (Switchable) *	
KUC	AC120V only	
SD	AC110V, 120–127V, 220V, 240V (Switchable)	
YPW	AC240V only	

* Change the connection of the transformer's primary wiring.

- This manual is applicable to SX–P520/HE, HB and HEWZI.
- For HB and HEWZI types, refer to pages 45–50.
- For the other types, refer to the applicable service manuals.
- These products are component of systems. For the system composition, refer to the system manual (s).
- Ce manuel pour le service comprend les explications de réglage en français.
- Este manual de servicio trata del método ajuste escrito en español.

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This service manual is intended for qualified service technicians; it is not meant for the casual do-it-yourselfer. Qualified technicians have the necessary test equipment and tools, and have been trained to properly and safely repair complex products such as those covered by this manual.
Improperly performed repairs can adversely affect the safety and reliability of the product and may void the warranty. If you are not qualified to perform the repair of this product properly and safely, you should not risk trying to do so and refer the repair to a qualified service technician.

WARNING
Lead in solder used in this product is listed by the California Health and Welfare agency as a known reproductive toxicant which may cause birth defects or other reproductive harm (California Health & Safety Code, Section 25249.5).
When servicing or handling circuit boards and other components which contain lead in solder, avoid unprotected skin contact with the solder. Also, when soldering do not inhale any smoke or fumes produced.

1. SAFETY INFORMATION

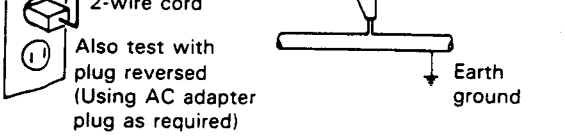
(FOR USA MODEL ONLY)

1. SAFETY PRECAUTIONS

The following check should be performed for the continued protection of the customer and service technician.

LEAKAGE CURRENT CHECK

Measure leakage current to a known earth ground (water pipe, conduit, etc.) by connecting a leakage current tester such as Simpson Model 229-2 or equivalent between the earth ground and all exposed metal parts of the appliance (input/output terminals, screwheads, metal overlays, control shaft, etc.). Plug the AC line cord of the appliance directly into a 120V AC 60Hz outlet and turn the AC power switch on. Any current measured must not exceed 0.5mA.


Reading should not be above 0.5mA
Leakage current tester
+
-
Device under test
Test all exposed metal surfaces
2-wire cord
Also test with plug reversed (Using AC adapter plug as required)
Earth ground

AC Leakage Test

ANY MEASUREMENTS NOT WITHIN THE LIMITS OUTLINED ABOVE ARE INDICATIVE OF A POTENTIAL SHOCK HAZARD AND MUST BE CORRECTED BEFORE RETURNING THE APPLIANCE TO THE CUSTOMER.

2. PRODUCT SAFETY NOTICE

Many electrical and mechanical parts in the appliance have special safety related characteristics. These are often not evident from visual inspection nor the protection afforded by them necessarily can be obtained by using replacement components rated for voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in this Service Manual.

Electrical components having such features are identified by marking with a ⚠ on the schematics and on the parts list in this Service Manual.
The use of a substitute replacement component which dose not have the same safety characteristics as the PIONEER recommended replacement one, shown in the parts list in this Service Manual, may create shock, fire, or other hazards.

Product Safety is continuously under review and new instructions are issued from time to time. For the latest information, always consult the current PIONEER Service Manual. A subscription to, or additional copies of, PIONEER Service Manual may be obtained at a nominal charge from PIONEER.

2. SPECIFICATIONS

STEREO RECEIVER: SX-P520

Amplifier Section

Continuous Power Output (DIN)	30 W + 30 W (1 kHz, T.H.D. 5%, 8 ohms)
Continuous Power Output (RMS)	35 W + 35 W (1 kHz, T.H.D. 5%, 8 ohms)
Music Power (DIN)	48 W + 48 W (1 kHz, T.H.D. 10%, 8 ohms)
Total Harmonic Distortion (1 kHz, 20 W, 8 ohms)	0.2%*

Miscellaneous

Power Requirements	220 - 230 V AC, 50/60 Hz
Power Consumption	182 W
Dimensions	260 (W) x 180 (H) x 301 (D) mm
Weight (without package)	4.9 kg

FM/AM Tuner Section

FM Tuner Section

Frequency Range	87.5 MHz to 108.0 MHz
Usable Sensitivity	Mono: 12.8 dBf, IHF (1.2 µV/75 ohms)
Sensitivity (DIN)	Mono S/N 26 dB: 1 µV/75 ohms Stereo S/N 46 dB: 50 µV/75 ohms
Signal-to-Noise Ratio (IHF, 85 dBf Input)	Mono: 77 dB Stereo: 73 dB
Signal-to-Noise Ratio (DIN)	Mono: 66 dB Stereo: 60 dB
Distortion	Stereo: 0.5 % (1kHz)
Antenna Input	75 ohms unbalanced

AM (MW) Tuner Section

Frequency Range	531 kHz to 1,602 kHz
Sensitivity (IHF, Loop antenna)	350 µV/m
Antenna	Loop Antenna

LW Tuner Section (For LW equipped models only)

Frequency Range	153 kHz to 281 kHz
Sensitivity (IHF, Loop antenna)	1500 µV/m
Antenna	Loop Antenna

Accessories

Remote Control Unit	1
Dry Cell Batteries (AAA/R03-UM4)	2
FM T-type Antenna	1
AM Loop Antenna	1
Operating Instructions	1

* Measured by audio spectrum analyzer.

NOTE:
Specifications and design subject to possible modification without notice due to improvements.

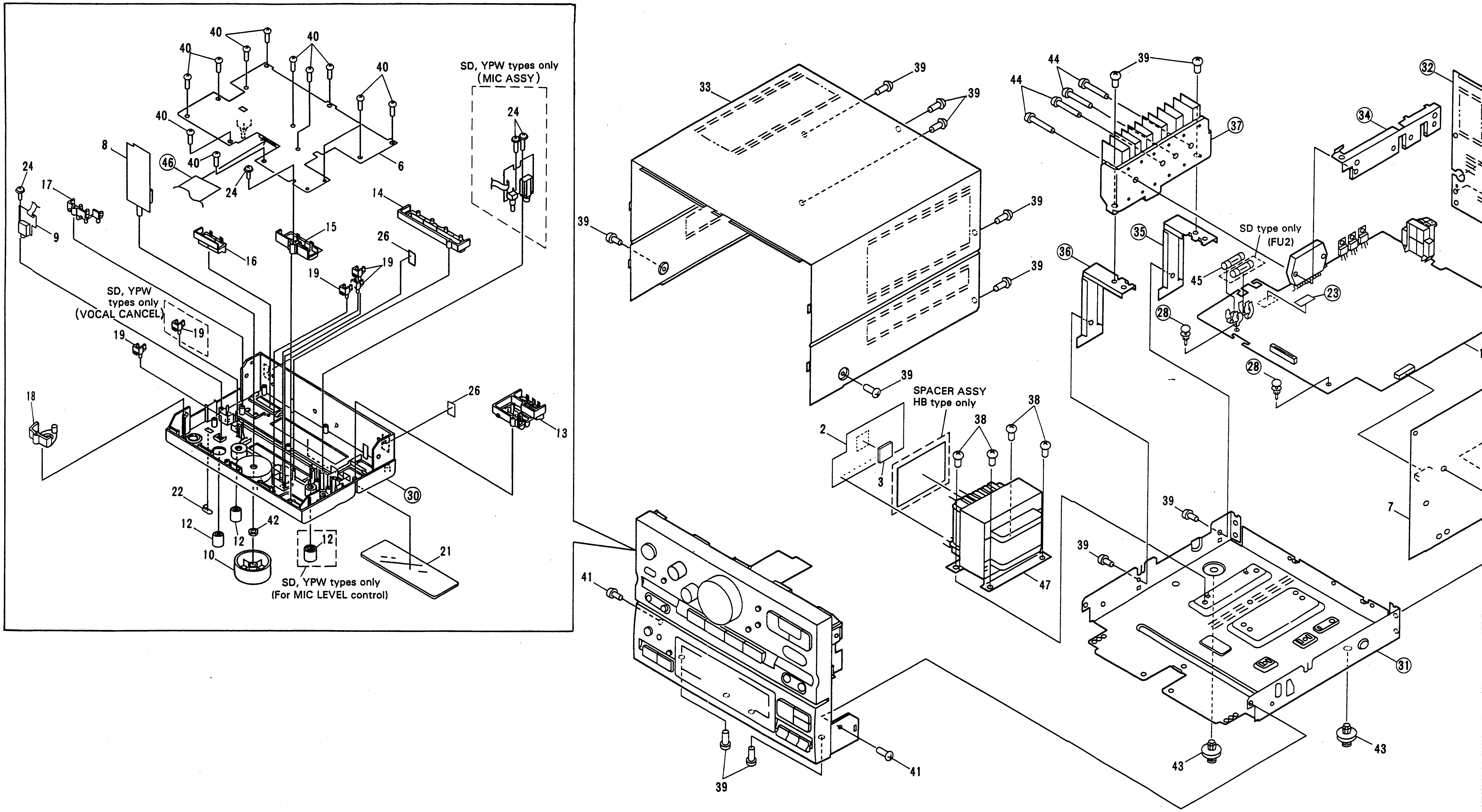
3. EXPLODED VIEWS, PACKING AND PARTS LIST

NOTES:

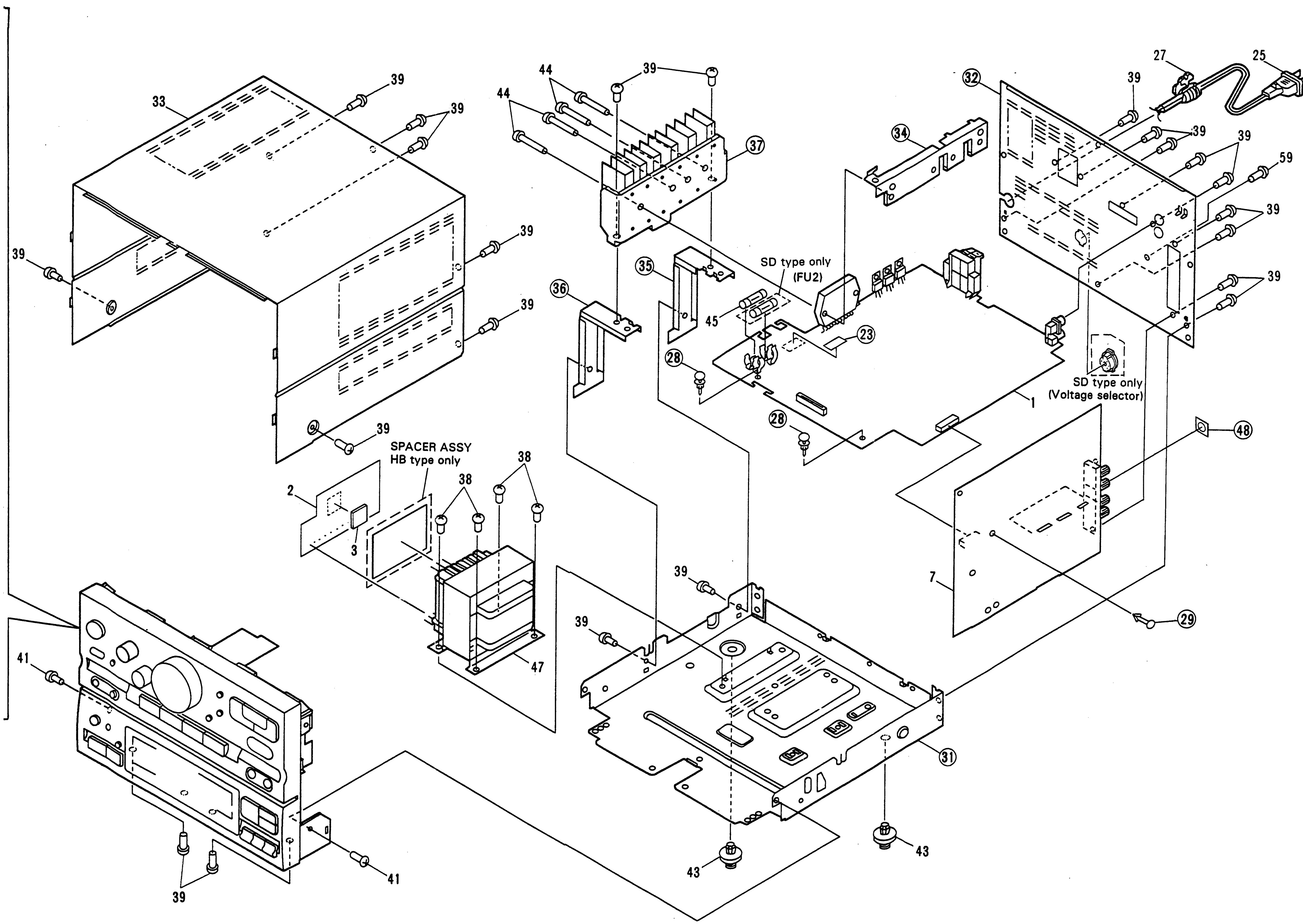
- *The parts with an encircled number are generally unavailable because they are not in our Master Spare Parts List.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *Parts marked by "◉" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.*

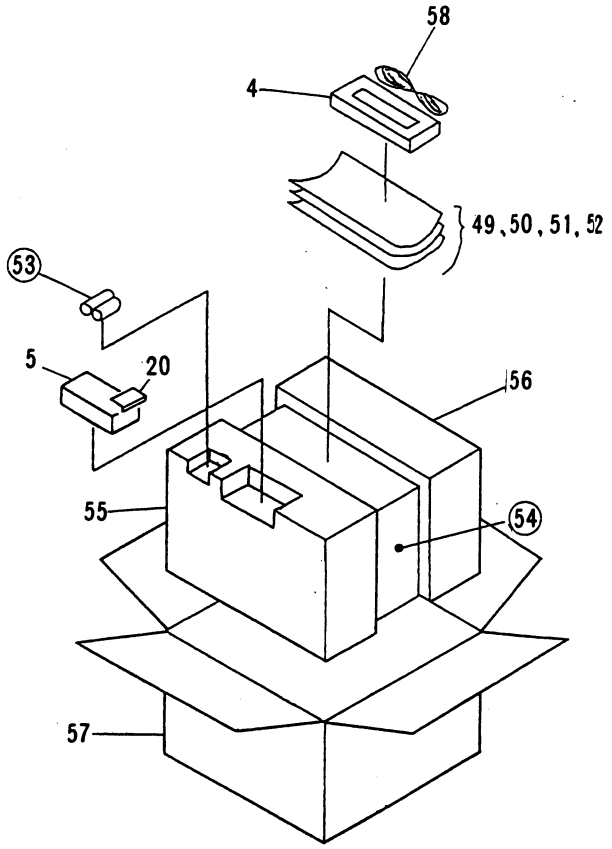
Parts list of Exterior and Packing

Mark	No.	Description	Parts No.
◉	1	POWER ASSEMBLY	AWZ3944
◉	2	TRANS ASSEMBLY	AWZ3930
	3	INSULATOR	AEZ1004
	4	LOOP ANTENNA (L)	ATB1006
	5	REMOTE CONTROL UNIT (CU−SX040)	AXD1267
◉	6	FRONT ASSEMBLY	AWZ3950
◉	7	TUNER ASSEMBLY	AWZ3938
◉	8	VOLUME ASSEMBLY	AWZ3941
◉	9	HEADPHONE ASSEMBLY	AWZ3942
	10	VOLUME KNOB	AAB1250
	11	....	
	12	ROTARY KNOB	AAB1273
	13	BAND BUTTON	AAD2177
	14	FUNCTION BUTTON	AAD2208
	15	SFC BUTTON	AAD2179
	16	WAKE UP BUTTON	AAD2180
	17	TIMER BUTTON	AAD2181
	18	POWER BUTTON	AAD2183
	19	AUDITION BUTTON	AAD2185
	20	BATTERY COVER	AZA1375
	21	TUNER DISPLAY PANEL	AAK2260
	22	REMOCON FILTER	AAK2261
	23	FUSE CARD	AAX−243
	24	SCREW (STEEL)	ABA1095
⚠	25	AC POWER CORD	ADG1049
	26	RUBBER SHEET	AEB1111
⚠	27	STRAIN RELIEF	AEC−882
	28	NYLON RIVET	AEC1160
	29	SPACER	AEC1358
	30	FRONT PANEL	AMB1937
	31	CHASSIS	ANA1136
	32	REAR PANEL	ANC1829
	33	BONNET	ANE1326
	34	PACK HOLDER	ANG1434
	35	HEAT SINK HOLDER A	ANG1628
	36	HEAT SINK HOLDER B	ANG1629
	37	HEAT SINK	ANH1361
	38	SCREW	BBZ30P060FMC
	39	SCREW	BBZ30P080FZK
	40	SCREW	BPZ26P080FMC
	41	SCREW	CBZ30P080FMC
	42	NUT	NK90FUC
	43	FOOT (RUBBER)	REC−434
	44	SCREW	VBZ30P160FMC
⚠	45	FUSE (T800mA, FU1)	AEK−507
⚠	46	FFC (J)	ADD1100
⚠	47	POWER TRANSFORMER	ATS1394
	48	SPACER	AEC1236
	49	OPE. INSTRUCTIONS (Dutch, Swedish, Spanish, Portuguese) RECEIVER	ARC1324
	50	OPE. INSTRUCTIONS (Dutch, Swedish, Spanish, Portuguese) CASSETTE, CD	ARC1337
	51	OPE. INSTRUCTIONS (English, French, Germam, Italian) RECEIVER	ARE1223
	52	OPE. INSTRUCTIONS (English, French, Germam, Italian) CASSETTE, CD	ARE1233
	53	DRY CELL (R03, "AAA")	AEX−021
	54	SHEET	AHG1040
	55	FRONT PAD	AHA1476
	56	REAR PAD	AHA1477
	57	PACKING CASE	AHD2219
	58	FM ANTENNA	ADH1005
	59	SCREW	VBZ35P080FMC


A
B
C
D
40
40
40
40
40
40
SD, YPW types only
(MIC ASSY)
24
8
㊻
24
6
24
17
9
14
15
16
26
19
19
SD, YPW
types only
(VOCAL CANCEL)
19
19
18
26
13
㉚
22
12
12
42
12
10
21
SD, YPW types only
(For MIC LEVEL control)
33
39
39
39
39
39
39
39
41
41
39
44
44
39
㊲
㉜
㉞
㉟
㊱
SD type only
(FU2)
45
㉓
㉘
㉘
SPACER ASSY
HB type only
2
3
38
38
47
7
39
39
㉛
43
43

NOTE : Screws adjacent to ▼ mark on the product are used for disassembly.

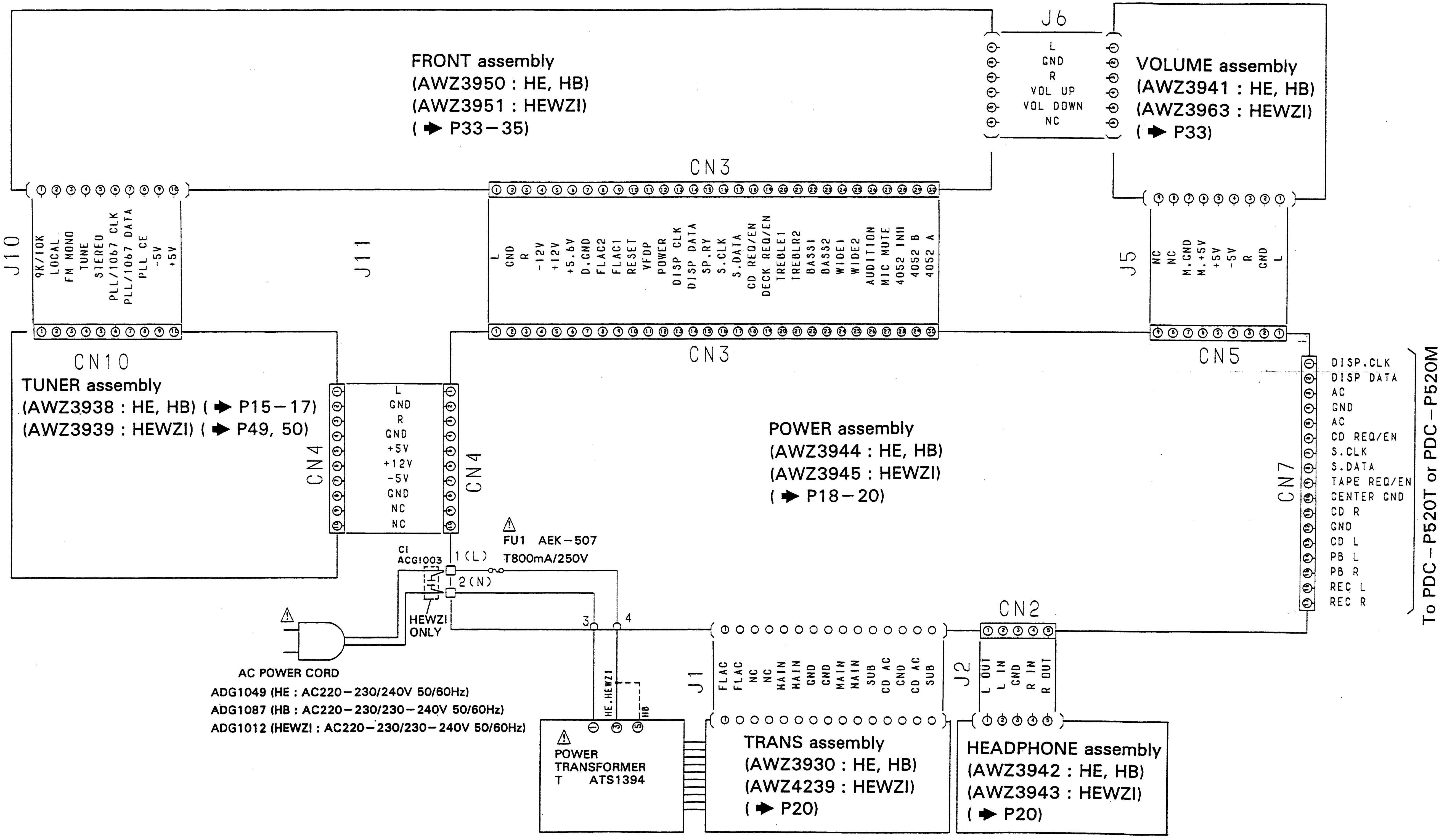

33
39
39
39
39
39
39
39
44
44
39
㊲
36
㉟
SD type only
(FU2)
45
㉘
㉓
㉘
㉞
㉜
39
27
25
39
39
59
39
39
1
SD type only
(Voltage selector)
㊽
7
㉙
SPACER ASSY
HB type only
2
3
38
38
47
39
39
㉛
43
43
41
41
39


58
4
49, 50, 51, 52
(53)
5
20
56
55
(54)
57

NOTE : Screws adjacent to ▼ mark on the product are used for disassembly.

4. SCHEMATIC DIAGRAMS AND PCB CONNECTION DIAGRAMS

4.1 CONNECTION DIAGRAM


FRONT assembly
(AWZ3950 : HE, HB)
(AWZ3951 : HEWZI)
(➧ P33−35)
J6
L
GND
R
VOL UP
VOL DOWN
NC
VOLUME assembly
(AWZ3941 : HE, HB)
(AWZ3963 : HEWZI)
(➧ P33)
CN3
J10
9K/10K
LOCAL
FM MONO
TUNE
STEREO
PLL/1067 CLK
PLL/1067 DATA
PLL CE
-5V
+5V
J11
L
GND
R
-12V
+12V
+5.6V
D.GND
FLAC2
FLAC1
RESET
VFDP
POWER
DISP CLK
DISP DATA
SP.RY
S.CLK
S.DATA
CD REQ/EN
DECK REQ/EN
TREBLE1
TREBLR2
BASS1
BASS2
WIDE1
WIDE2
AUDITION
MIC MUTE
4052 INH
4052 B
4052 A
J5
NC
NC
M.GND
M.+5V
+5V
-5V
R
GND
L
CN10
TUNER assembly
(AWZ3938 : HE, HB) (➧ P15−17)
(AWZ3939 : HEWZI) (➧ P49, 50)
CN4
L
GND
R
GND
+5V
+12V
-5V
GND
NC
NC
CN4
CN3
CN5
POWER assembly
(AWZ3944 : HE, HB)
(AWZ3945 : HEWZI)
(➧ P18−20)
CN7
DISP.CLK
DISP DATA
AC
GND
AC
CD REQ/EN
S.CLK
S.DATA
TAPE REQ/EN
CENTER GND
CD R
GND
CD L
PB L
PB R
REC L
REC R
To PDC−P520T or PDC−P520M
⚠
FU1 AEK−507
T800mA/250V
CI
ACG1003
1(L)
2(N)
HEWZI
ONLY
⚠
AC POWER CORD
ADG1049 (HE : AC220−230/240V 50/60Hz)
ADG1087 (HB : AC220−230/230−240V 50/60Hz)
ADG1012 (HEWZI : AC220−230/230−240V 50/60Hz)
3
4
CN2
J1
FLAC
FLAC
NC
NC
MAIN
MAIN
GND
GND
MAIN
MAIN
SUB
CD AC
GND
CD AC
SUB
J2
L OUT
L IN
GND
R IN
R OUT
HE,HEWZI
HB
⚠
POWER
TRANSFORMER
T ATS1394
TRANS assembly
(AWZ3930 : HE, HB)
(AWZ4239 : HEWZI)
(➧ P20)
HEADPHONE assembly
(AWZ3942 : HE, HB)
(AWZ3943 : HEWZI)
(➧ P20)

1. RESISTORS:
   Indicated in Ω, ¼W, ⅛W, ±5% tolerance unless otherwise noted k : kΩ, M : MΩ, (F) : ±1%, (G) : ±2%, (K) : ±10% (M); ±20% tolerance

2. CAPACITORS:
   Indicated in capacity (μF)/voltage (V) unless otherwise noted p : pF
   Indication without voltage is 50V except electrolytic capacitor.

3. VOLTAGE, CURRENT:
   □ : Signal voltage at (30W + 30W 8Ω)output (1kHz)
   □ : DC voltage (V) at no input signal
   Value in ( ) is DC voltage at rated power.
   ⇦ mA : DC current at no input signal
   mV : Signal voltage at FM 1kHz ±75kHz

4. OTHERS:
   ➡ : Signal route.
   ⊘ : Adjusting point.
   The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
   ※ marked capacitors and resistors have parts numbers.
   ▼ (RED) : Measurement point
   This is the basic schematic diagram, but the actual circuit may vary due to improvements in design.

5. SWITCHES (The underline indicates the switch position)

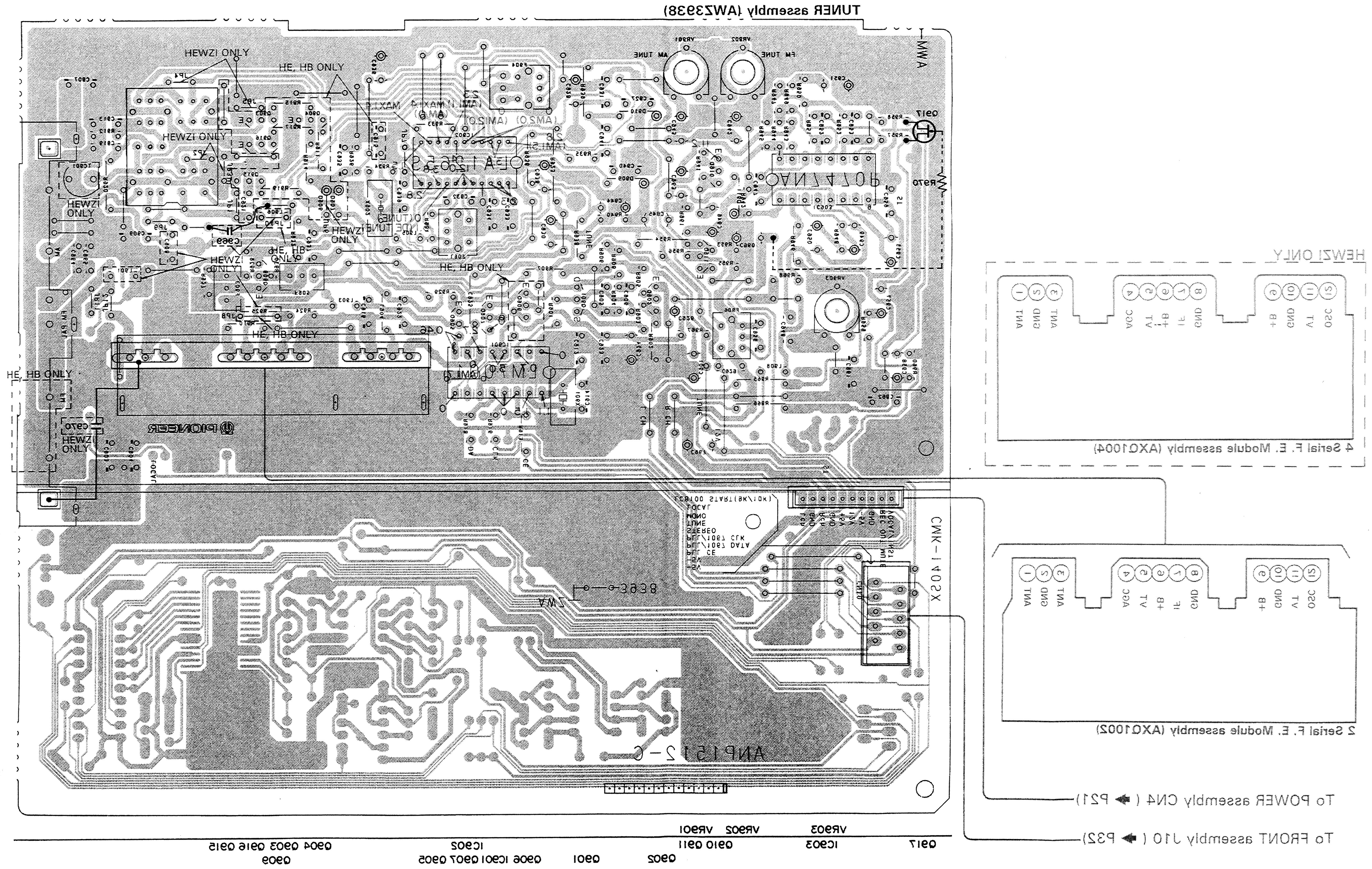
FRONT assembly

S3001	POWER
S3002	TIMER SET
S3003	WAKE UP / −
S3004	FM MONO
S3005	TUNER −
S3006	SFC BGM
S3007	SMART MEMORY
S3008	SFC CLEAR
S3009	S. STEREO WIDE
S3011	DISPLAY
S3012	REC TIMER / +
S3013	FREQ / ST
S3014	TUNER +
S3015	SFC DISCO
S3016	SMART START / SET
S3017	FUNCTION CD
S3018	FUNCTION TUNER
S3020	CLOCK ADJUST
S3021	MEMORY
S3022	BAND
S3023	SFC HALL
S3024	FUNCTION PHONO
S3025	FUNCTION TAPE

Schematic diagram for HEWZI type, refer to page 49.

4.2 TUNER ASSEMBLY

This P. C. B. connection diagram is viewed from the foil side.

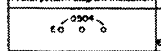
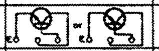
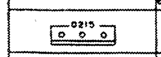
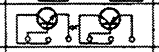
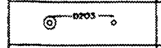
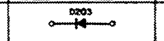
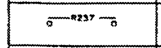
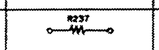
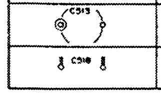
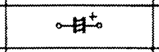
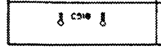
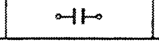

A
B
C
D
TUNER assembly (AWZ3938)
HEWZI ONLY
HE, HB ONLY
AM TUNE
FM TUNE
VR901
VR902
VR903
Q917
R970
IC902
IC903
IC901
PIONEER
ANP1512-C
CWK-1405X
HEWZI ONLY
4 Serial F. E. Module assembly (AXQ1004)
2 Serial F. E. Module assembly (AXQ1002)
ANT
GND
ANT
AGC
VT
B+
IF
GND
+B
GND
VT
OSC
To POWER assembly CN4 (→ P21)
To FRONT assembly J10 (→ P32)
VR901 VR902 VR903
Q904 Q903 Q916 Q915
Q909
IC902
Q906 IC901 Q907 Q905
Q901
Q902
Q911 Q910
IC903
Q917

Schematic diagram for HEWZI type, refer to page 49.

This P. C. B connection diagram is viewed from the parts mounted side.

NOTE

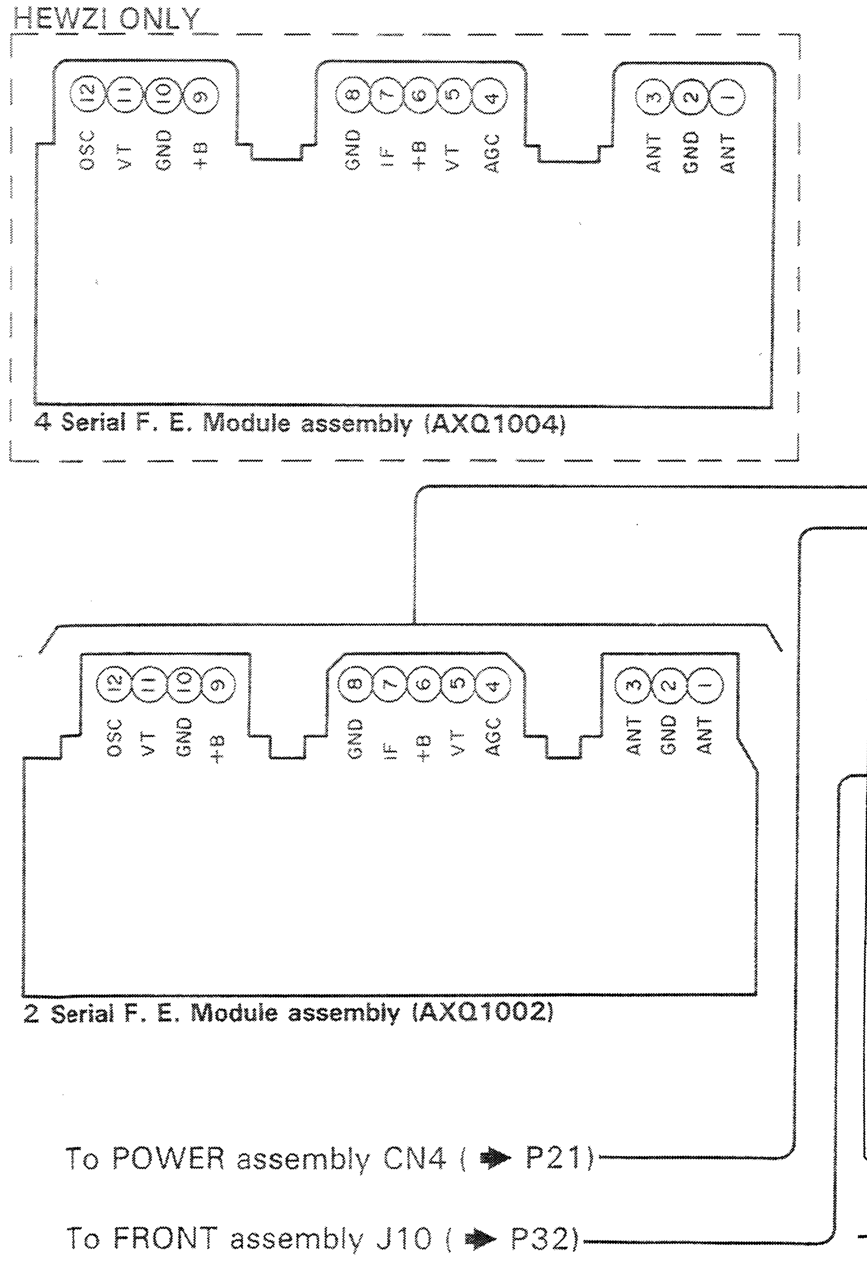
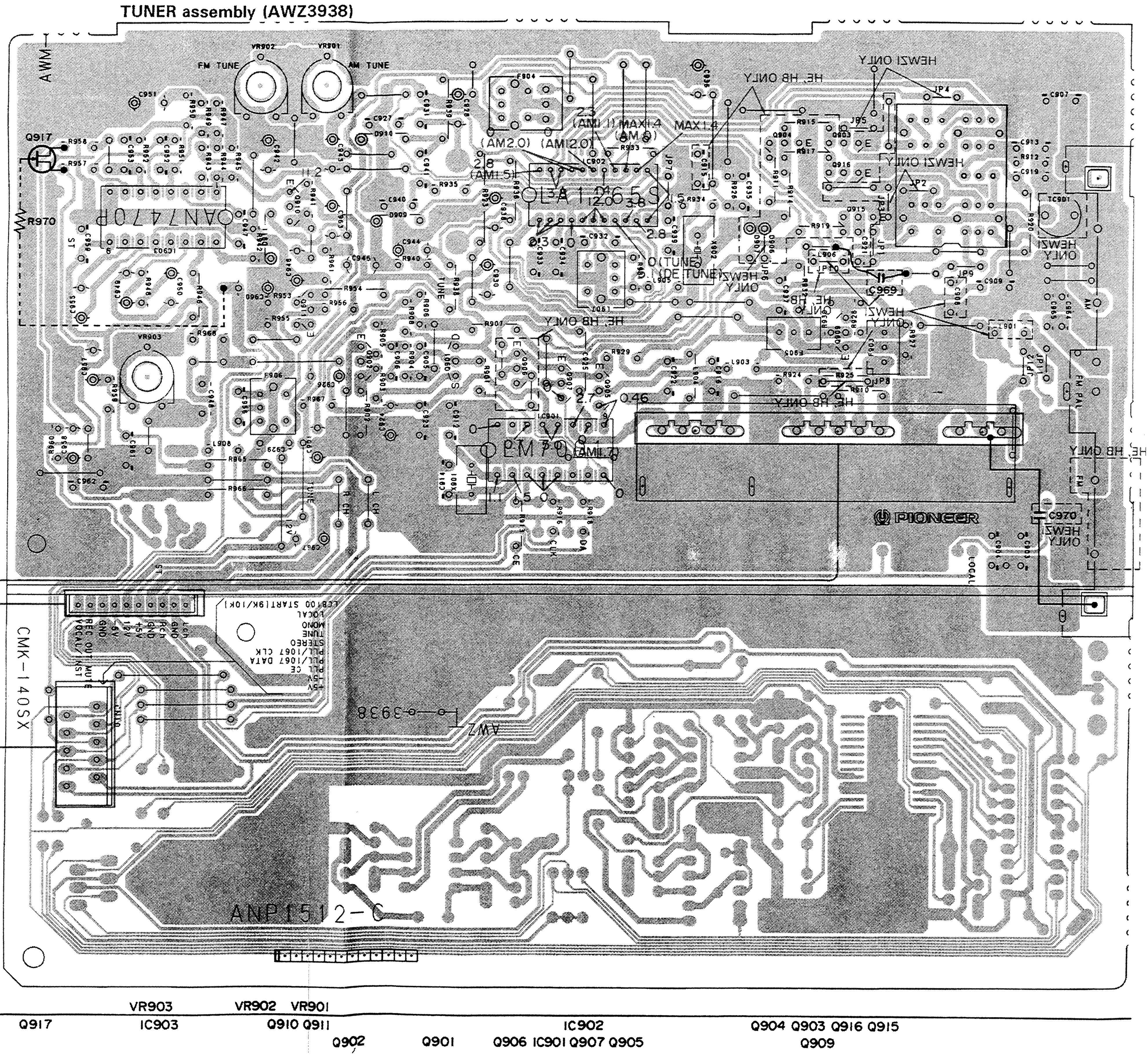
1. This P.C.B connection diagram is viewed from the parts mounted side.
2. The parts which have been mounted on the board can be replaced with those shown with the corresponding wiring symbols listed in the following Table.

P.C.B. pattern diagram indication	Corresponding part symbol	Part Name
 Q304		Transistor
 Q215		Radiator type transistor
 D203	 D203	Diode
 R237	 R237	Resistor
 C313		Capacitor (Polarized)
 C316		Capacitor (Non-polarized)

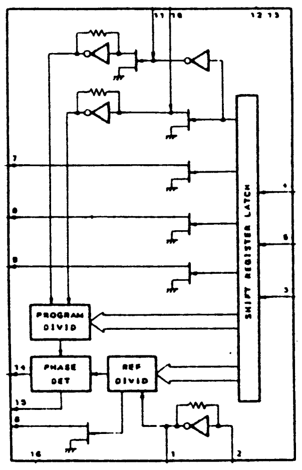
Others

P.C.B. pattern diagram indication	Part Name
IC	IC
S	Switch
RY	Relay
L	Coil
F	Filter
VR	Variable resistor or Semi-fixed resistor

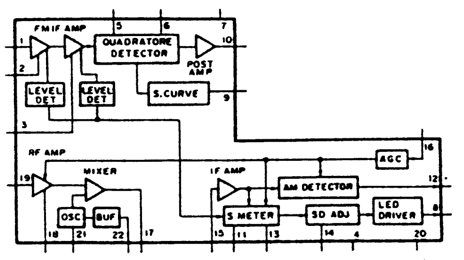
3. The capacitor terminal marked with ◎ (double circles) shows negative terminal.
4. The diode terminal marked with ◎ (double circles) shows cathode side.
5. The transistor terminal to which E is affixed shows the emitter.



TUNER assembly (AWZ3938)
HEWZI ONLY
4 Serial F. E. Module assembly (AXQ1004)
2 Serial F. E. Module assembly (AXQ1002)
OSC
VT
GND
+B
GND
IF
+B
VT
AGC
ANT
GND
ANT
FM TUNE
AM TUNE
VR902
VR901
VR903
Q917
R970
IC903
AN7470P
IC902
LA1265S
IC901
LM7001
HE, HB ONLY
HEWZI ONLY
PIONEER
CMK-140SX
AWZ-3938
ANP1512-C
To POWER assembly CN4 (➔ P21)
To FRONT assembly J10 (➔ P32)
Q917
VR903
IC903
VR902
VR901
Q910 Q911
Q902
Q901
IC902
Q906 IC901 Q907 Q905
Q904 Q903 Q916 Q915
Q909

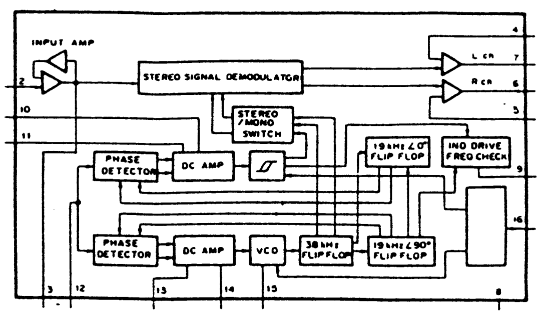
IC901 LM7001

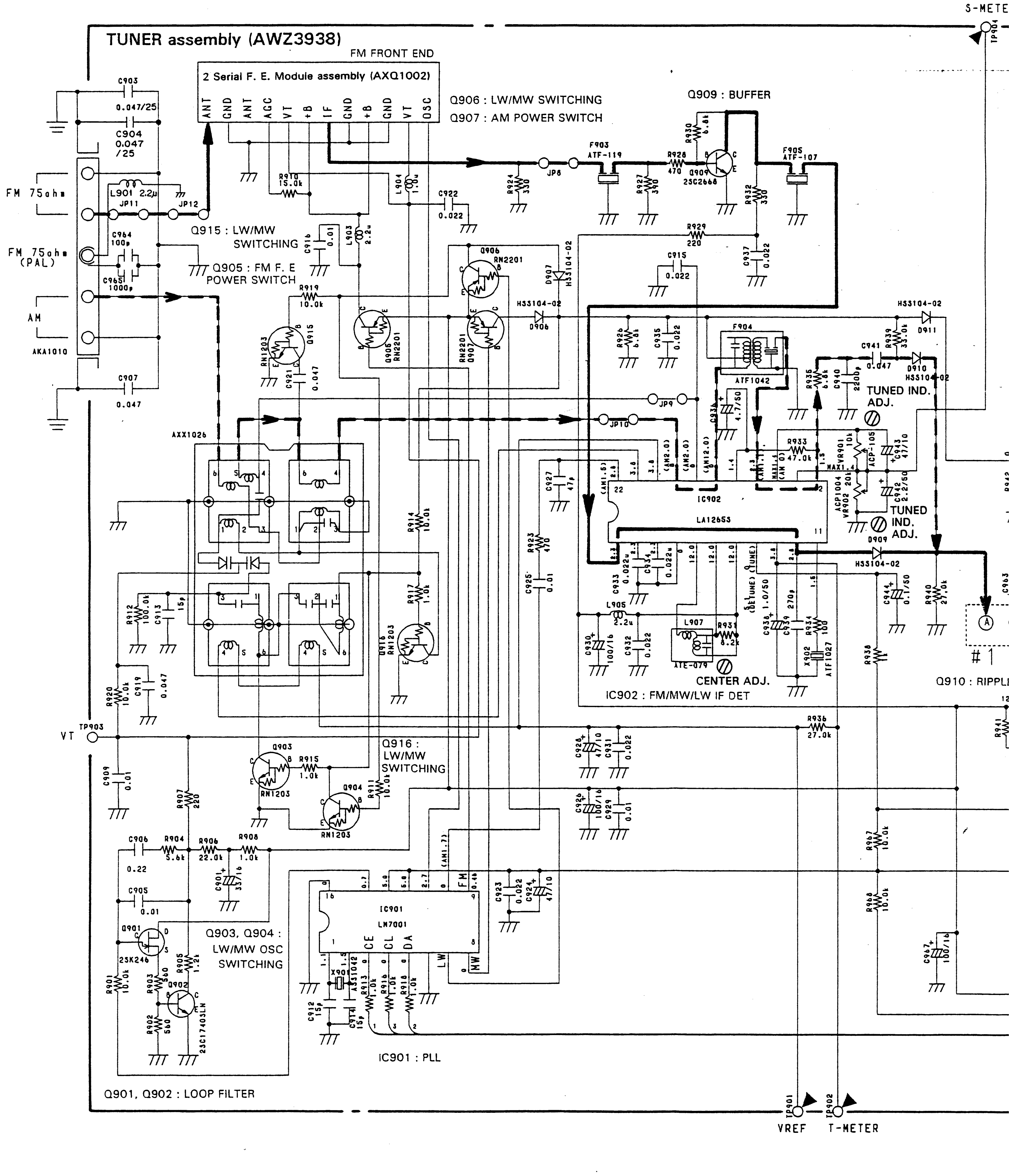

PROGRAM DIVID
PHASE DET
REF DIVID
SHIFT REGISTER LATCH

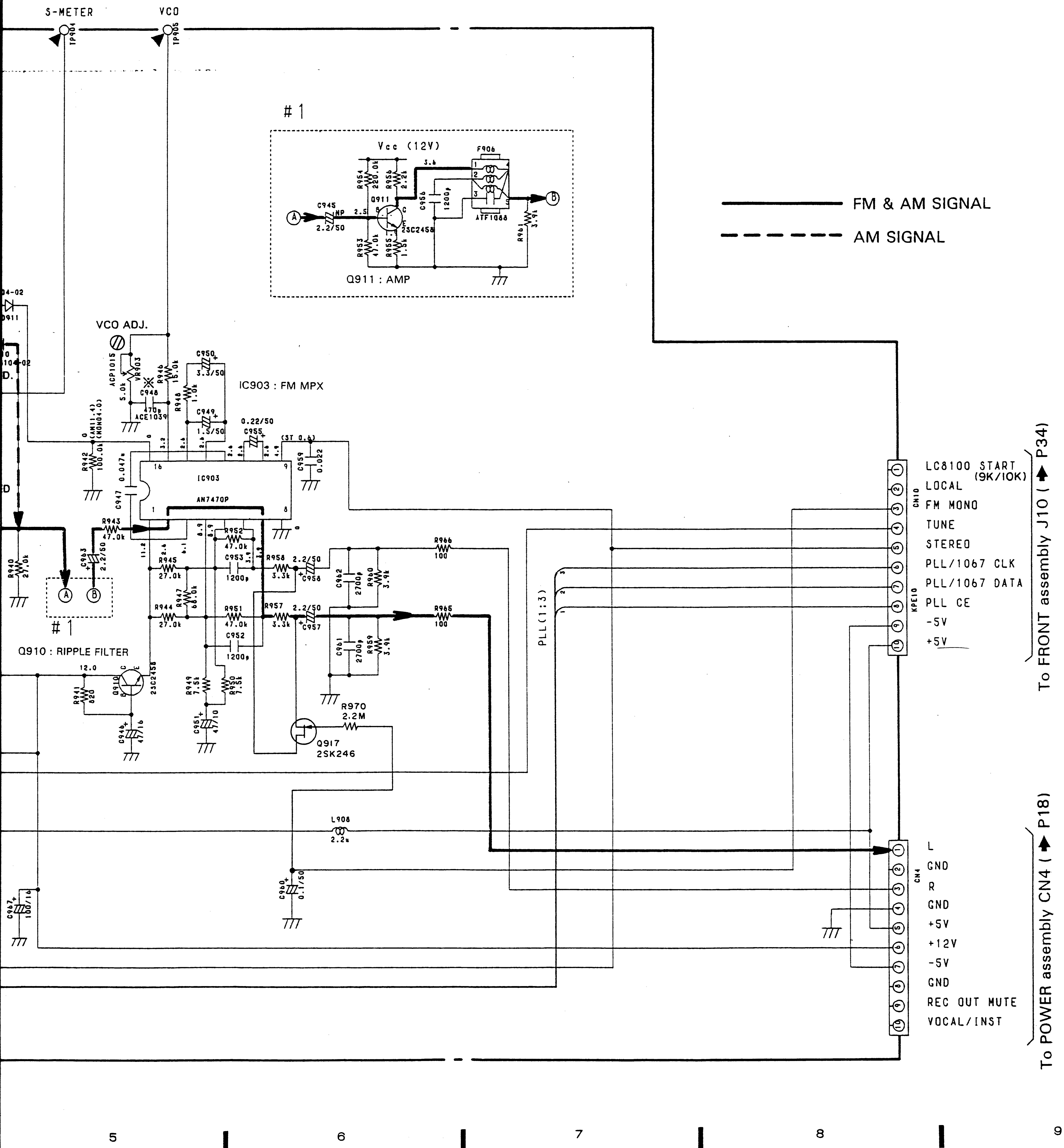
IC902 LA1265S


FM IF AMP
QUADRATURE DETECTOR
POST AMP
LEVEL DET
LEVEL DET
S.CURVE
RF AMP
MIXER
OSC
BUF
IF AMP
AM DETECTOR
AGC
S METER
SD ADJ
LED DRIVER

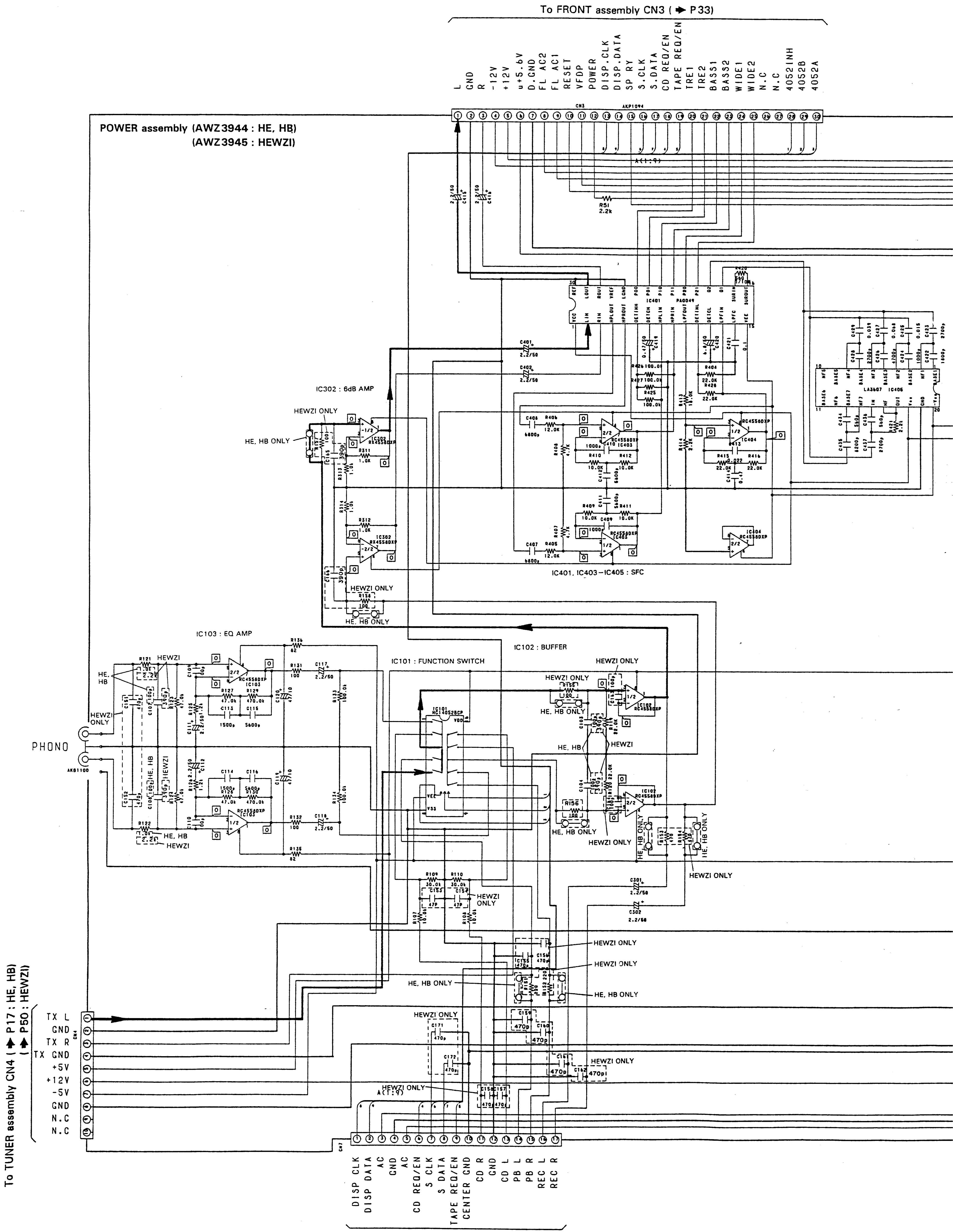
IC903 AN7470P

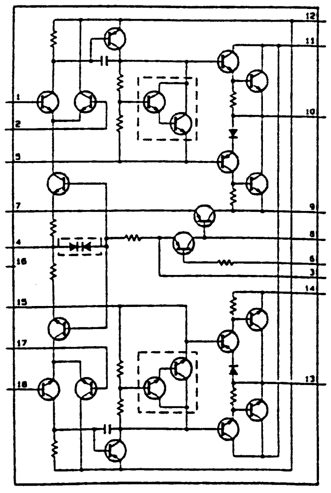

INPUT AMP
STEREO SIGNAL DEMODULATOR
L ch
R ch
STEREO /MONO SWITCH
PHASE DETECTOR
DC AMP
19kHz 0° FLIP FLOP
IND DRIVE FREQ CHECK
PHASE DETECTOR
DC AMP
VCO
38kHz FLIP FLOP
19kHz 90° FLIP FLOP


TUNER assembly (AWZ3938)
FM FRONT END
2 Serial F. E. Module assembly (AXQ1002)
ANT
GND
ANT
AGC
VT
+B
IF
GND
+B
GND
VT
OSC
Q906 : LW/MW SWITCHING
Q907 : AM POWER SWITCH
Q909 : BUFFER
S-METER
TP904
FM 75ohm
FM 75ohm (PAL)
AM
AKA1010
C903 0.047/25
C904 0.047 /25
L901 2.2μ
JP11
JP12
C964 100p
C965 1000p
C907 0.047
Q915 : LW/MW SWITCHING
Q905 : FM F. E POWER SWITCH
R910 15.0k
L904 1.0μ
C922 0.022
F903 ATF-119
JP8
R924 330
R928 470
Q909 2SC2668
R930 6.8k
R927 390
F905 ATF-107
R932 330
R929 220
C937 0.022
C915 0.022
C916 0.01
L903 2.2μ
Q906 RN2201
D907 HSS104-02
R919 10.0k
Q915 RN1203
C921 0.047
Q907 RN2201
D906 HSS104-02
R926 6.8k
C935 0.022
F904
ATF1042
R939 33.0k
D911 HSS104-02
C941 0.047
D910 HSS104-02
R935 6.8k
C940 2200p
TUNED IND. ADJ.
JP9
JP10
C936 4.7/50
R933 47.0k
VR901 10k
ACP-105
C943 47/10
C942 2.2/50
VR902 20k
ACP1004
TUNED IND. ADJ.
D909 HSS104-02
AXX1026
C927 47p
IC902
LA1265S
R914 10.0k
R923 470
C925 0.01
C933 0.022μ
C934 0.022μ
L905 2.2μ
C930 100/16
C932 0.022
L907
ATE-079
R931 8.2k
CENTER ADJ.
C938 1.0/50
C939 270p
R934 100
X902 ATF1027
C944 0.1/50
R940 27.0k
R938
#1
Q910 : RIPPLE
IC902 : FM/MW/LW IF DET
R912 100.0k
C913 15p
R917 1.0k
Q916 RN1203
R920 10.0k
C919 0.047
TP903
VT
R936 27.0k
C928 47/10
C931 0.022
C909 0.01
Q903 RN1203
R915 1.0k
Q916 : LW/MW SWITCHING
Q904 RN1203
R911 10.0k
R907 220
C926 100/16
C929 0.01
C906 0.22
R904 5.6k
R906 22.0k
R908 1.0k
C901 33/16
C905 0.01
Q901 2SK246
Q903, Q904 : LW/MW OSC SWITCHING
R905 1.2k
R901 10.0k
R903 560
Q902 2SC1740SLN
R902 560
IC901 LM7001
CE
CL
DA
LW
FM
MW
C923 0.022
C924 47/10
X901 ASS1042
C912 15p
C914 15p
R913 1.0k
R916 1.0k
R918 1.0k
IC901 : PLL
R967 10.0k
R968 10.0k
C967 100/16
R941
Q901, Q902 : LOOP FILTER
TP901
VREF
TP902
T-METER


S-METER
TP904
VCO
TP905
#1
Vcc (12V)
F906
R954 220.0k
R956 2.2k
3.6
Q911
C945 NP
2.2/50
2.5
2SC2458
C956 1200p
ATF1088
R961 3.9k
R953 47.0k
R955 1.5k
Q911 : AMP
FM & AM SIGNAL
AM SIGNAL
VCO ADJ.
ACP1015
VR903 5.0k
C948 470p
ACE1039
R946 15.0k
R948 1.0k
C950 3.3/50
C949 1.5/50
IC903 : FM MPX
C955 0.22/50
(ST 0.6)
C959 0.022
R942 100.0k
C947 0.047u
IC903
AN7470P
R943 47.0k
C963 2.2/50
A
B
#1
R940 27.0k
R945 27.0k
R944 27.0k
R947 68.0k
R952 47.0k
C953 1200p
R951 47.0k
C952 1200p
R958 3.3k
C958 2.2/50
R957 3.3k
C957 2.2/50
C962 2700p
R960 3.9k
C961 2700p
R959 3.9k
R966 100
R965 100
Q910 : RIPPLE FILTER
12.0
R941 820
Q910
2SC2458
C946 47/16
R949 7.5k
R950 7.5k
C951 47/10
R970 2.2M
Q917
2SK246
PLL(1:3)
L908 2.2u
C960 0.1/50
C967 100/16
CN10
KPE10
LC8100 START (9K/10K)
LOCAL
FM MONO
TUNE
STEREO
PLL/1067 CLK
PLL/1067 DATA
PLL CE
-5V
+5V
To FRONT assembly J10 (→ P34)
CN4
L
GND
R
GND
+5V
+12V
-5V
GND
REC OUT MUTE
VOCAL/INST
To POWER assembly CN4 (→ P18)

4.3 POWER ASSEMBLY, TRANS ASSEMBLY AND HEADPHONE ASSEMBLY


To FRONT assembly CN3 (➧ P33)
L
GND
R
-12V
+12V
u+5.6V
D.GND
FL AC2
FL AC1
RESET
VFDP
POWER
DISP.CLK
DISP.DATA
SP RY
S.CLK
S.DATA
CD REQ/EN
TAPE REQ/EN
TRE1
TRE2
BASS1
BASS2
WIDE1
WIDE2
N.C
N.C
4052INH
4052B
4052A
CN3
AKP1094
POWER assembly (AWZ3944 : HE, HB)
(AWZ3945 : HEWZI)
R51
2.2k
IC401
PA0049
LA3607 IC406
IC302 : 6dB AMP
HEWZI ONLY
HE, HB ONLY
IC401, IC403–IC405 : SFC
IC103 : EQ AMP
IC101 : FUNCTION SWITCH
IC102 : BUFFER
HE, HB
HEWZI
PHONO
AKB1100
HEWZI ONLY
HE, HB ONLY
To TUNER assembly CN4 (➧ P17 : HE, HB)
(➧ P50 : HEWZI)
TX L
GND
TX R
TX GND
+5V
+12V
-5V
GND
N.C
N.C
CN4
CN7
DISP CLK
DISP DATA
AC
GND
AC
CD REQ/EN
S CLK
S DATA
TAPE REQ/EN
CENTER GND
CD R
GND
CD L
PB L
PB R
REC L
REC R
To PDC–P520T or PDC–P520M



IC501 STK4152-2GP

IC401 (PA0049)

Pin No.	Voltage	Pin No.	Voltage	Pin No.	Voltage
1	4.7	11	0	21	0
2	0	12	0	22	0
3	0	13	0	23	0
4	0	14	0	24	0
5	0	15	−5.2	25	0
6	0	16		26	0
7	0	17		27	0
8	0	18		28	0
9	0	19		29	0
10	0	20		30	0

IC405 (LA3607)

Pin No.	Voltage	Pin No.	Voltage
1	−0.1	11	−0.1
2	−0.8	12	−0.8
3	−0.1	13	−0.1
4	−0.8	14	−0.8
5	−0.1	15	−0.1
6	−0.8	16	−0.8
7	−0.1	17	−0.8
8	−0.8	18	4.7
9	−0.1	19	0
10	−0.8	20	−5.2

IC501 (STK4152−2GP)

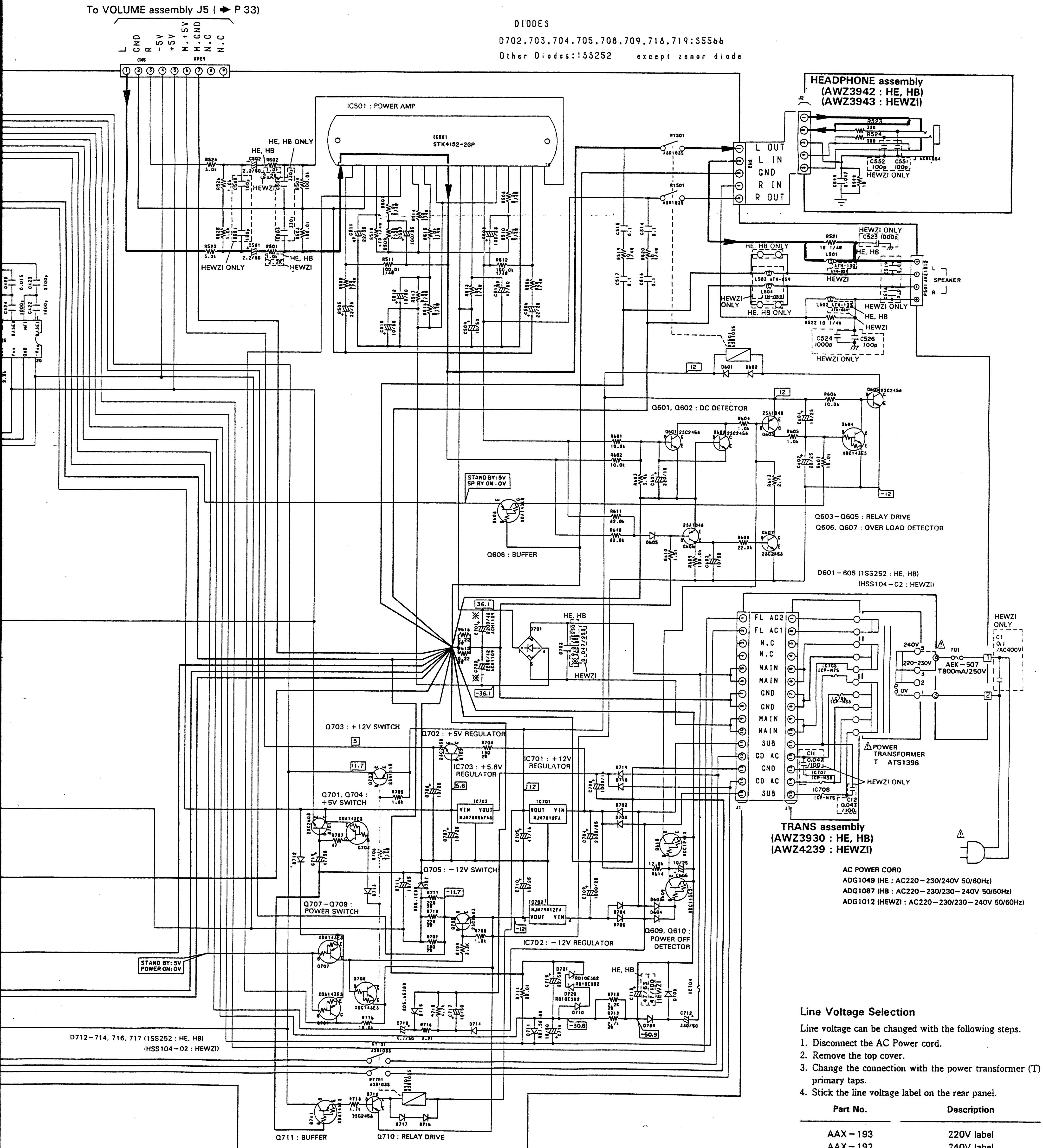
Pin No.	Voltage	Pin No.	Voltage
1	−0.3	10	0
2	−0.3	11	32.4
3	0	12	30.8
4	−26.8	13	0
5	−1.3	14	−32.4
6	4.8 −1.7 (When STANDBY)	15	−1.3
7	−31.6	16	0
8	−32.3	17	−0.3
9	−32.5	18	−0.3

DIODES

D702,703,704,705,708,709,718,719:S5566

Other Diodes:1SS252 except zenor diode

To VOLUME assembly J5 (➧ P 33)



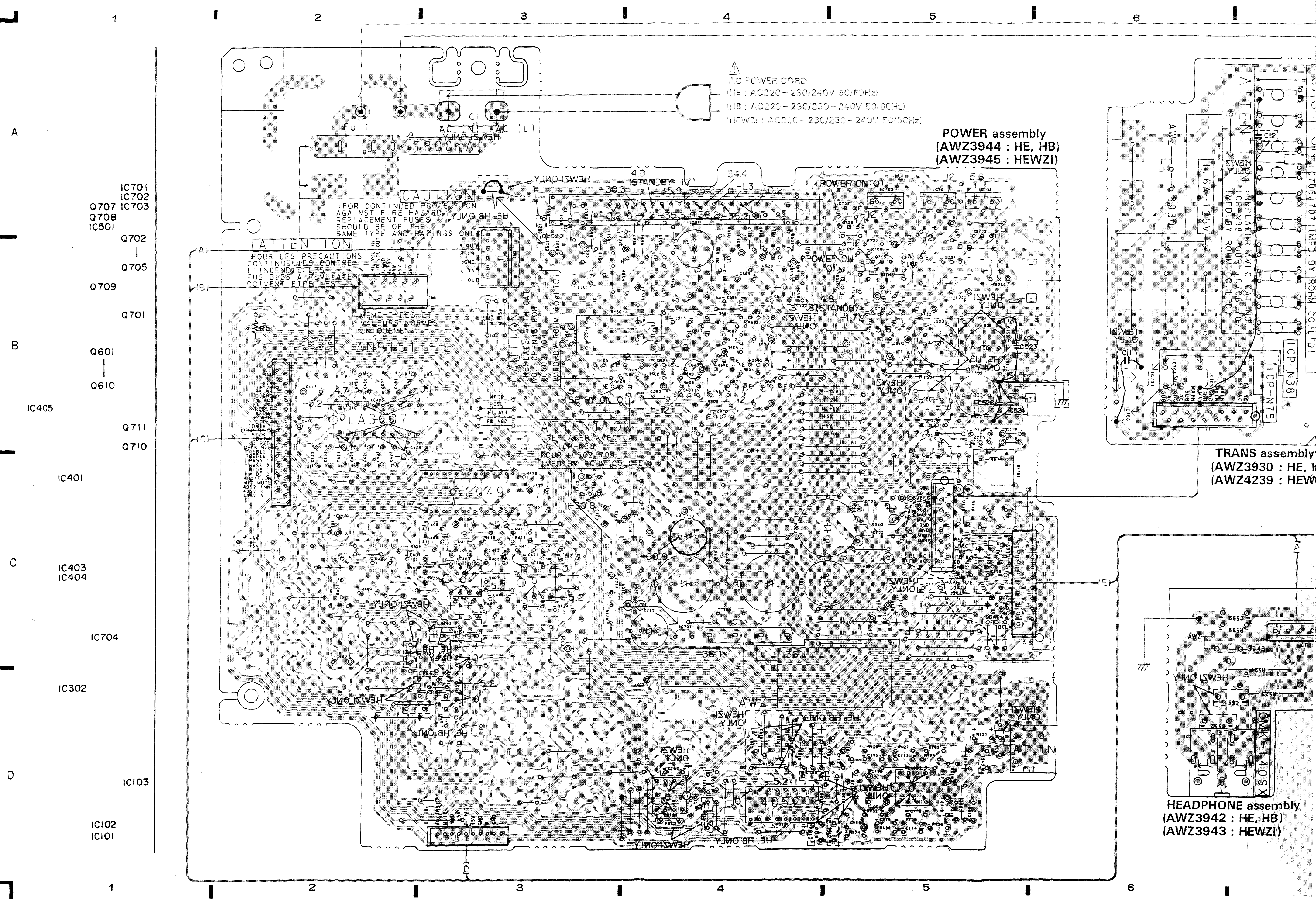
L
GND
R
-5V
+5V
M.+5V
M.GND
N.C
N.C
CN5
KPE9
IC501 : POWER AMP
IC501
STK4152-2GP
HE, HB ONLY
HE, HB
HEWZI
HEWZI ONLY
R524
R526
R525
R523
R502
R501
C502
C501
RY501
ASR1035
HEADPHONE assembly
(AWZ3942 : HE, HB)
(AWZ3943 : HEWZI)
J2
R523
R524
C552 1000p
C551 100p
HEWZI ONLY
L OUT
L IN
GND
R IN
R OUT
CN2
R521
L501
L503 ATH-059
L504
L502 ATH-133
R522 10 1/4W
C523 1000p
C524 1000p
C526 100p
SPEAKER
L
R
D601
D602
12
Q601, Q602 : DC DETECTOR
Q601 2SC2458
Q602 2SC2458
Q603 2SA1048
Q604 XBC143ES
Q605 2SC2458
R601
R602
R604
R605
R606
R611
R612
R608
Q606 2SA1048
Q607 2SC2458
D605
-12
STAND BY:5V
SP RY ON:0V
Q608 XDA143ES
Q608 : BUFFER
Q603−Q605 : RELAY DRIVE
Q606, Q607 : OVER LOAD DETECTOR
D601−605 (1SS252 : HE, HB)
(HSS104−02 : HEWZI)
36.1
-36.1
D701
HE, HB
HEWZI
FL AC2
FL AC1
N.C
N.C
MAIN
MAIN
GND
GND
MAIN
MAIN
SUB
CD AC
GND
CD AC
SUB
J1
J11
IC705 ICP-N75
IC706 ICP-N38
IC707 ICP-N38
IC708 ICP-N75
C11 0.047/100
C12 0.047/100
HEWZI ONLY
⚠POWER TRANSFORMER
T ATS1396
240V
220-230V
0V
⚠ FU1
AEK−507
T800mA/250V
HEWZI ONLY
C1 0.1 /AC400V
TRANS assembly
(AWZ3930 : HE, HB)
(AWZ4239 : HEWZI)
⚠
AC POWER CORD
ADG1049 (HE : AC220−230/240V 50/60Hz)
ADG1087 (HB : AC220−230/230−240V 50/60Hz)
ADG1012 (HEWZI : AC220−230/230−240V 50/60Hz)
Q703 : +12V SWITCH
Q702 : +5V REGULATOR
IC703 : +5.6V REGULATOR
IC701 : +12V REGULATOR
5
11.7
5.6
12
Q701, Q704 : +5V SWITCH
IC703 NJM78M56FA
IC701 NJM7812FA
VIN VOUT
Q705 : −12V SWITCH
-11.7
IC702 NJM79M12FA
IC702 : −12V REGULATOR
-12
Q707−Q709 : POWER SWITCH
Q609, Q610 : POWER OFF DETECTOR
STAND BY: 5V
POWER ON: 0V
D720 RD10ESB2
D721 RD10ESB2
-30.8
-60.9
HE, HB
HEWZI
D712−714, 716, 717 (1SS252 : HE, HB)
(HSS104−02 : HEWZI)
RY01 ASR1035
RY701 ASR1035
Q711 : BUFFER
Q710 : RELAY DRIVE
Q710 2SC2458
Q711 XDA143ES

Line Voltage Selection

Line voltage can be changed with the following steps.

1. Disconnect the AC Power cord.
2. Remove the top cover.
3. Change the connection with the power transformer (T) primary taps.
4. Stick the line voltage label on the rear panel.

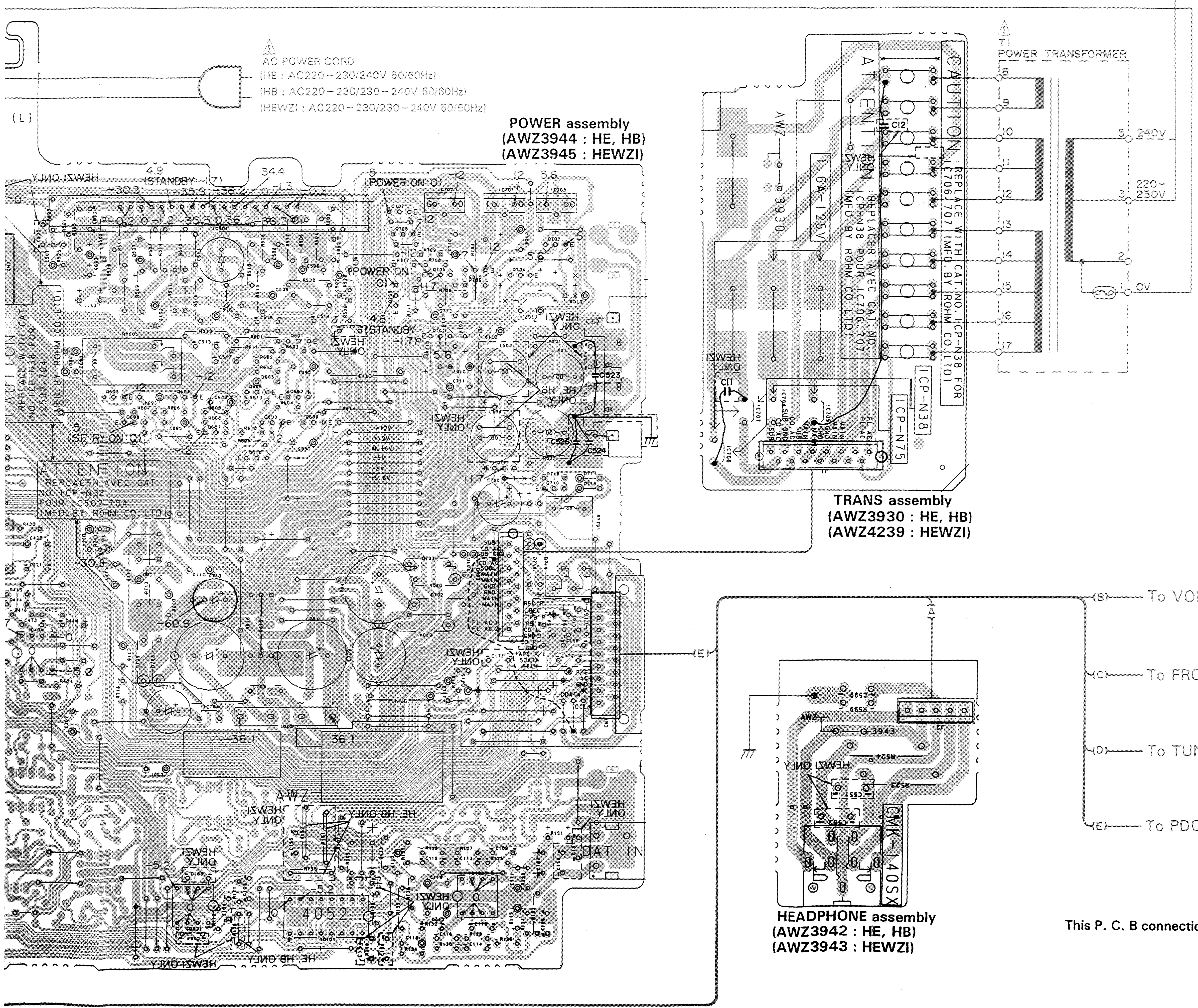
Part No.	Description
AAX−193	220V label
AAX−192	240V label


POWER assembly
(AWZ3944 : HE, HB)
(AWZ3945 : HEWZI)

TRANS assembly
(AWZ3930 : HE, H
(AWZ4239 : HEW

HEADPHONE assembly
(AWZ3942 : HE, HB)
(AWZ3943 : HEWZI)

1
2
3
4
5
6
A
B
C
D
IC701
IC702
Q707 IC703
Q708
IC501
Q702
Q705
Q709
Q701
Q601
Q610
IC405
Q711
Q710
IC401
IC403
IC404
IC704
IC302
IC103
IC102
IC101
AC POWER CORD
(HE : AC220－230/240V 50/60Hz)
(HB : AC220－230/230－240V 50/60Hz)
(HEWZI : AC220－230/230－240V 50/60Hz)
FU 1
T800mA
AC IN
AC (L)
HEWZI ONLY
HE, HB ONLY
CAUTION
:FOR CONTINUED PROTECTION AGAINST FIRE HAZARD, REPLACEMENT FUSES SHOULD BE OF THE SAME TYPE AND RATINGS ONLY.
ATTENTION
POUR LES PRECAUTIONS CONTINUELLES CONTRE L'INCENDIE LES FUSIBLES A REMPLACER DOIVENT ETRE LES MEME TYPES ET VALEURS NORMES UNIQUEMENT.
CAUTION
REPLACE WITH CAT. NO. ICP-N38 FOR IC502, 704 (MFD. BY ROHM CO. LTD)
ATTENTION
REPLACER AVEC CAT. NO. ICP-N38 POUR IC502, 704 (MFD. BY ROHM CO. LTD)
ATTENTION: REPLACER AVEC CAT. NO. ICP-N38 POUR IC706, 707 (MFD. BY ROHM CO. LTD)
CAUTION: REPLACE WITH CAT. NO. ICP-N38 FOR IC706, 707 (MFD. BY ROHM CO. LTD)
ANP1511-E
LA3607
PA0049
4052
AWZ
DAT IN
1.6A-125V
3930
ICP-N38
ICP-N75
CMK-140SX
3943
4.9 (STANDBY:-17)
34.4
5 (POWER ON:0)
5 (POWER ON:0)
4.8 (STANDBY:-17)
5 (SP RY ON:0)
-30.3
-35.9
-36.2
-60.9
-50.8
-36.1
36.1
-5.2
4.7
-12
12
5.6
11.7
(A)
(B)
(C)
(D)
(E)


AC POWER CORD
(HE : AC220−230/240V 50/60Hz)
(HB : AC220−230/230−240V 50/60Hz)
(HEWZI : AC220−230/230−240V 50/60Hz)
(L)
POWER assembly
(AWZ3944 : HE, HB)
(AWZ3945 : HEWZI)
HEWZI ONLY
(STANDBY:−17)
(POWER ON:0)
POWER ON (0)
STANDBY
SP RY ON : 0
ATTENTION
REPLACER AVEC CAT. NO. ICP-N38 POUR IC502,704 (MFD. BY ROHM CO. LTD)
CAUTION
REPLACE WITH CAT. NO. ICP-N38 FOR IC502,704 (MFD. BY ROHM CO. LTD)
HE, HB ONLY
AWZ
4052
DAT IN
T1
POWER TRANSFORMER
240V
220−230V
0V
AWZ−3930
1.6A−125V
CAUTION
REPLACE WITH CAT. NO. ICP-N38 FOR IC706, 707 (MFD. BY ROHM CO. LTD)
ATTENTION
REPLACER AVEC CAT. NO. ICP-N38 POUR IC706, 707 (MFD. BY ROHM CO. LTD)
ICP-N38
ICP-N75
TRANS assembly
(AWZ3930 : HE, HB)
(AWZ4239 : HEWZI)
AWZ−3943
CMK−140SX
HEADPHONE assembly
(AWZ3942 : HE, HB)
(AWZ3943 : HEWZI)
To VOLUME assembly J5 (➡ P30)
To FRONT assembly CN3 (➡ P31)
To TUNER assembly CN4 (➡ P13)
To PDC−P520T or PDC−P520M

NOTE

1. This P.C.B connection diagram is viewed from the parts mounted side.
2. The parts which have been mounted on the board can be replaced with those shown with the corresponding wiring symbols listed in the following Table.

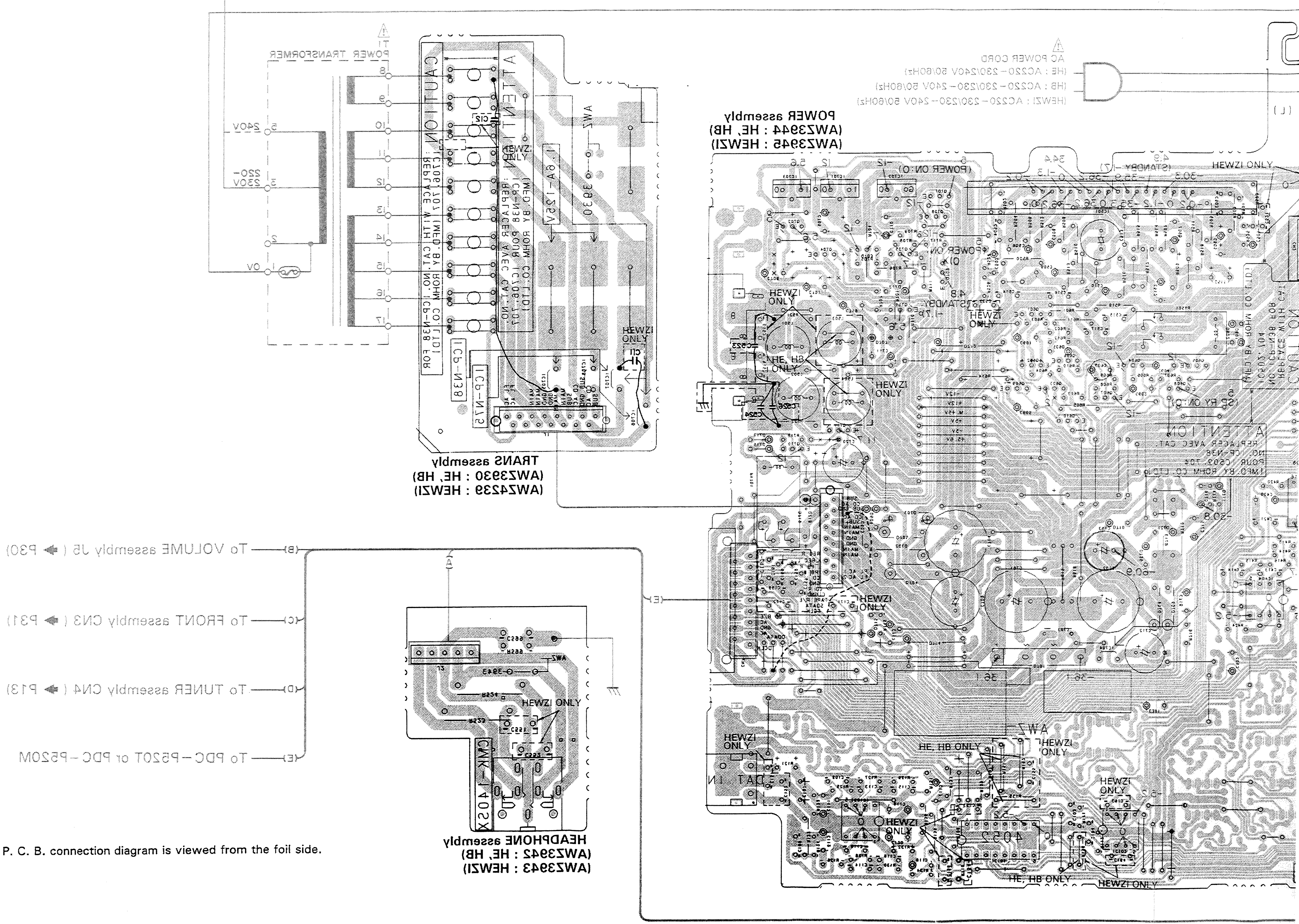
P.C.B. pattern diagram indication	Corresponding part symbol	Part Name
E 0504	E or E	Transistor
0215	or	Radiator type transistor
0203	D203	Diode
R237	R237	Resistor
C513	+	Capacitor (Polarized)
C518		Capacitor (Non-polarized)

Others

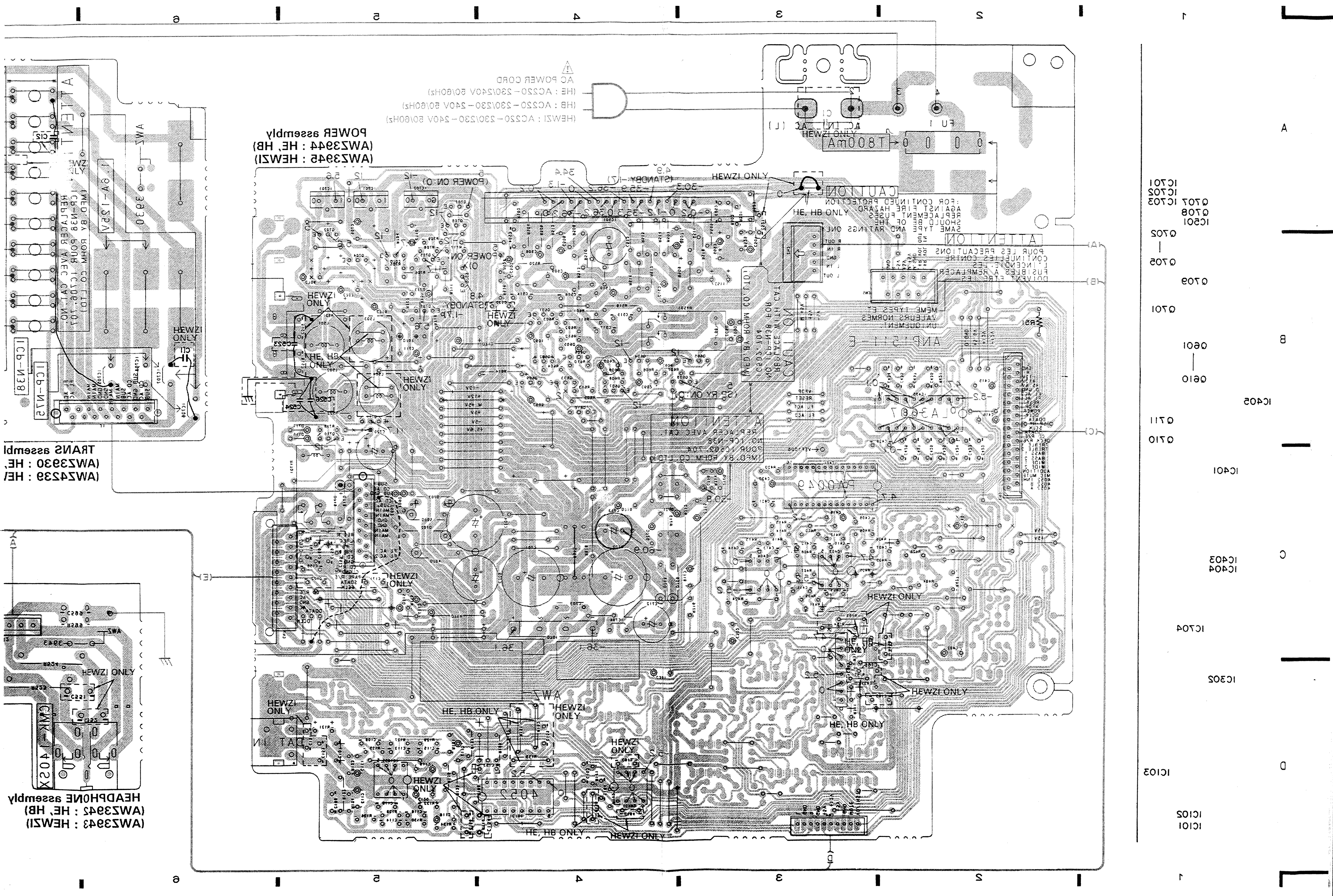
P.C.B. pattern diagram indication	Part Name
IC	IC
S	Switch
RY	Relay
L	Coil
F	Filter
VR	Variable resistor or Semi-fixed resistor

3. The capactor terminal marked with ◎(double circles) shows negatine terminal.
4. The diode terminal marked with ◎(double circles) shows cathode side.
5. The transistor terminal to which E is affixed shows the emitter.

This P. C. B connection diagram is viewed from the parts mounted side.

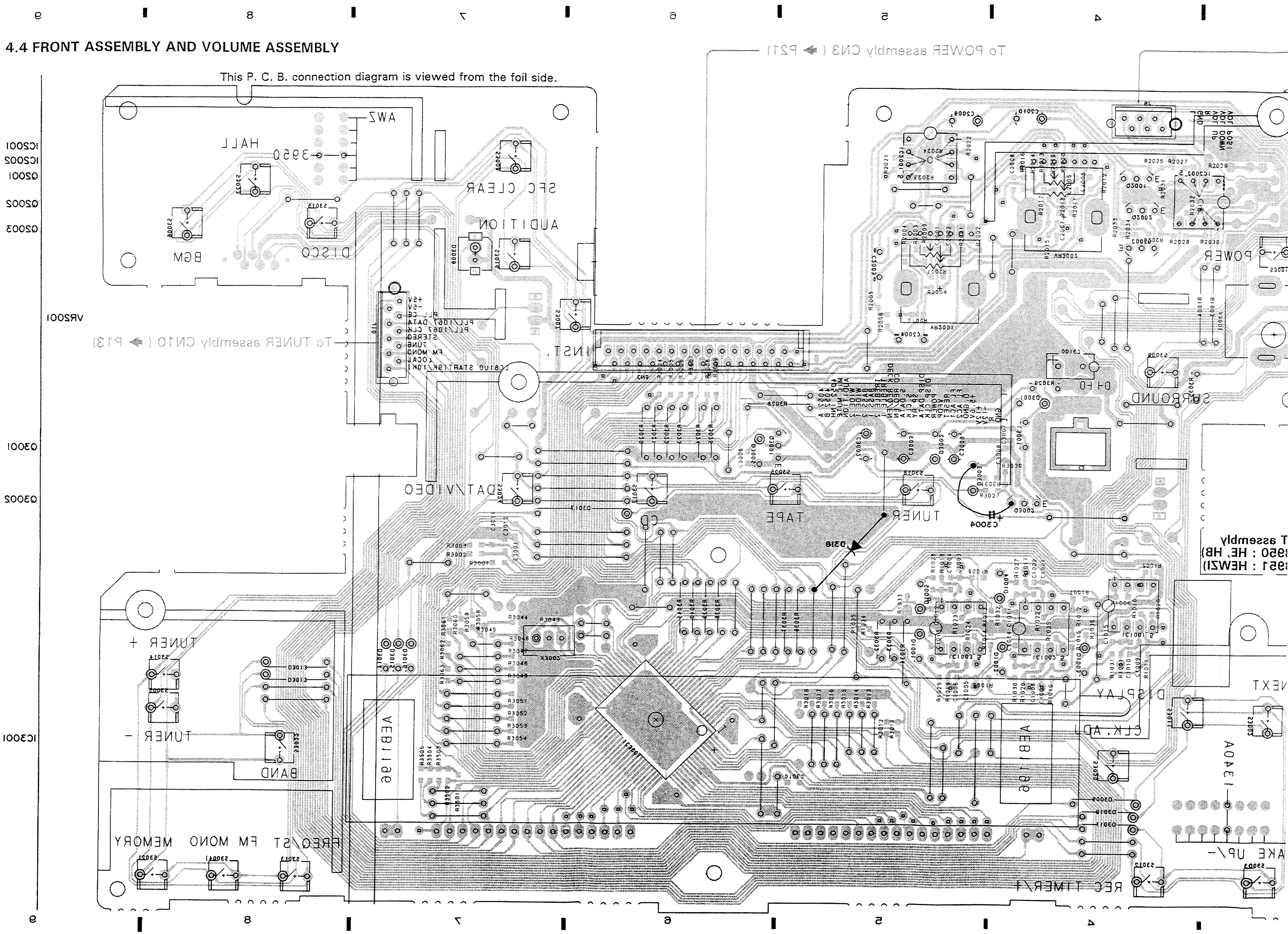

AC POWER CORD
(HE : AC220–230/240V 50/60Hz)
(HB : AC220–230/230–240V 50/60Hz)
(HEWZI : AC220–230/230–240V 50/60Hz)
T1
POWER TRANSFORMER
240V
220–230V
0V
CAUTION : REPLACE WITH CAT. NO. ICP-N38 FOR IC706, 707 (MFD. BY ROHM CO. LTD.)
ATTENTION : REPLACER AVEC CAT. NO. ICP-N38 POUR IC706, 707 (MFD. BY ROHM CO. LTD.)
ICP-N38
ICP-N75
HEWZI ONLY
TRANS assembly
(AWZ3930 : HE, HB)
(AWZ4239 : HEWZI)
POWER assembly
(AWZ3944 : HE, HB)
(AWZ3945 : HEWZI)
HE, HB ONLY
To VOLUME assembly J5 (P30)
To FRONT assembly CN3 (P31)
To TUNER assembly CN4 (P13)
To PDC–P520T or PDC–P520M
HEADPHONE assembly
(AWZ3942 : HE, HB)
(AWZ3943 : HEWZI)
CMK-1405X

This P. C. B. connection diagram is viewed from the foil side.

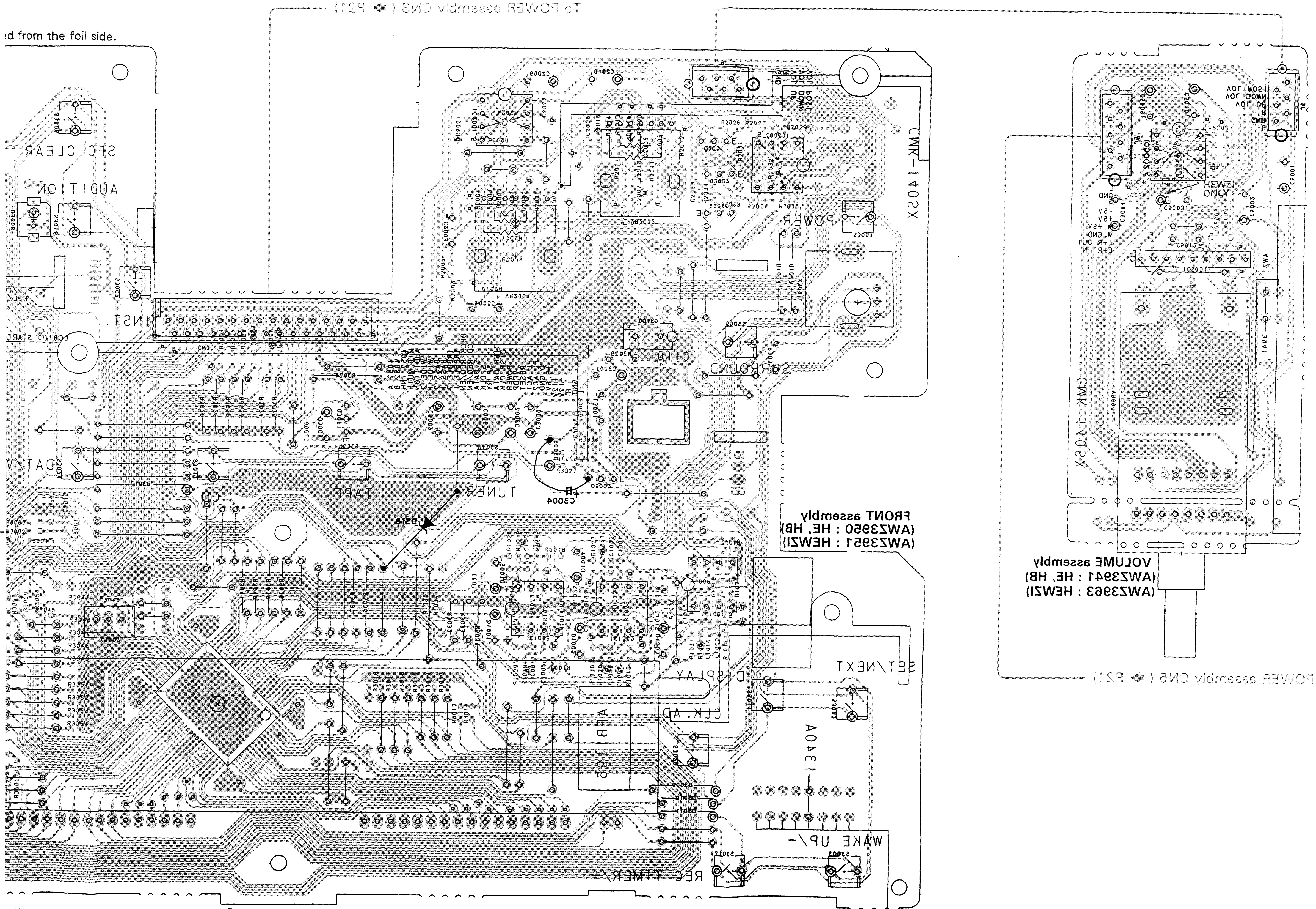

6
5
4
3
2
1
A
B
C
D
POWER assembly
(AWZ3944 : HE, HB)
(AWZ3945 : HEWZI)
TRANS assembl
(AWZ3930 : HE,
(AWZ4239 : HE/
HEADPHONE assembly
(AWZ3942 : HE, HB)
(AWZ3943 : HEWZI)
AC POWER CORD
(HE : AC220－230/240V 50/60Hz)
(HB : AC220－230/230－240V 50/60Hz)
(HEWZI : AC220－230/230－240V 50/60Hz)
HEWZI ONLY
HE, HB ONLY
FU 1
T800mA
CAUTION
FOR CONTINUED PROTECTION AGAINST FIRE HAZARD, REPLACEMENT FUSES SHOULD BE OF THE SAME TYPE AND RATINGS ONLY.
ATTENTION
POUR LES PRECAUTIONS CONTINUELLES CONTRE L'INCENDIE, LES FUSIBLES A REMPLACER DOIVENT ETRE LES MEME TYPES ET VALEURS NORMES UNIQUEMENT.
CAUTION
REPLACE WITH ROHM CO. LTD. FOR NO. ICP-N38 FOR IC501
ATTENTION
REPLACER AVEC CAT. NO. ICP-N38 POUR IC502, 704 (MFD. BY ROHM CO. LTD.)
ATTENTION
REPLACER AVEC CAT. NO. ICP-N38 POUR IC708, 707 (MFD. BY ROHM CO. LTD.)
ICP-N38
ICP-N75
CMK-405X
DAT IN
(POWER ON:0)
(STANDBY:-17)
(SP RY ON:0)
ANP1511-E
LA3607
PA0049
4052
AWZ
(A)
(B)
(C)
(D)
(E)
IC701
IC702
IC703
Q707
Q708
IC501
Q702
Q705
Q709
Q701
Q601
Q610
IC405
Q711
Q710
IC401
IC403
IC404
IC704
IC302
IC103
IC102
IC101

4.4 FRONT ASSEMBLY AND VOLUME ASSEMBLY

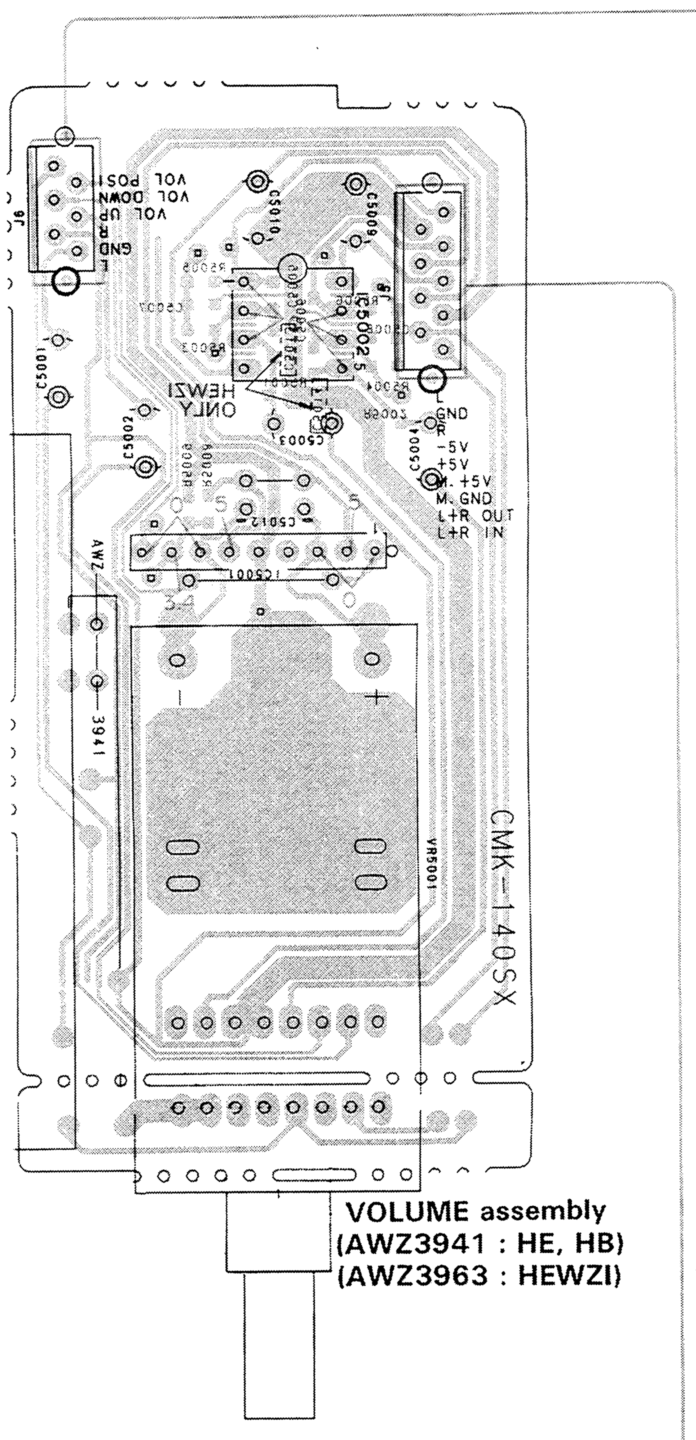
This P. C. B. connection diagram is viewed from the foil side.


9
8
7
6
5
4
A
B
C
D
To POWER assembly CN3 (→ P21)
To TUNER assembly CN10 (→ P13)
IC2001
IC2002
Q2001
Q2002
Q2003
VR2001
Q3001
Q3002
IC3001
HALL
3950
BGM
DISCO
SFC CLEAR
AUDITION
INST.
DAT/VIDEO
CD
TAPE
TUNER
D318
C3004
SURROUND
POWER
DISPLAY
CLK.ADJ
NEXT
TUNER +
TUNER −
BAND
MEMORY
FM MONO
FREQ/ST
REC TIMER/+
WAKE UP/−
AEB1196
T assembly
3950 : HE, HB)
3951 : HEWZI)

ed from the foil side.

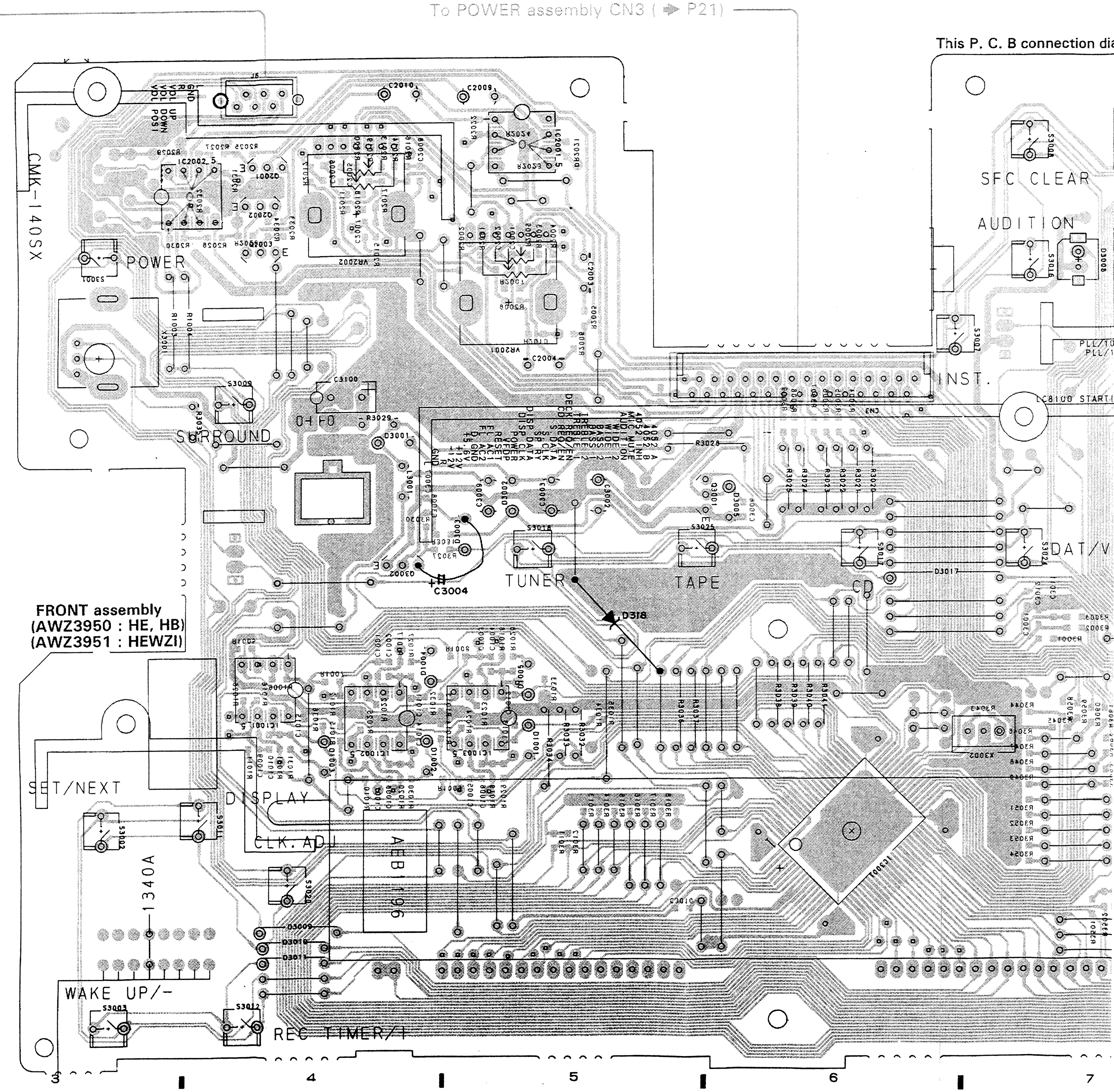

To POWER assembly CN3 (➡ P21)
To POWER assembly CN5 (➡ P21)
FRONT assembly
(AWZ3950 : HE, HB)
(AWZ3951 : HEWZI)
VOLUME assembly
(AWZ3941 : HE, HB)
(AWZ3963 : HEWZI)
CMX-1404
XS04-1404
SFC CLEAR
AUDITION
INST.
TAPE
TUNER
CD
SURROUND
POWER
DISPLAY
SET/NEXT
CLK.ADJ
WAKE UP/−
REC TIMER/+
HEWZI ONLY
GND
VOL DOWN
VOL UP
−15V
+15V
M.GND
L+R OUT
L+R IN
IC3001
IC2001
IC2002
IC1001
IC1002
IC1003
VR2001
VR2002
VR3001
C3004
D3018
A B C D

This P. C. B connection dia


J6
VOL POSI
VOL DOWN
VOL UP
GND
IC5002
HEWZI ONLY
GND
-5V
+5V
M. +5V
M. GND
L+R OUT
L+R IN
CMK-140SX
VR5001
AWZ 3941

VOLUME assembly
(AWZ3941 : HE, HB)
(AWZ3963 : HEWZI)

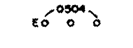
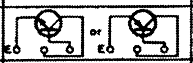
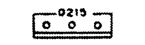
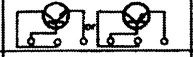
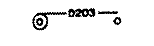
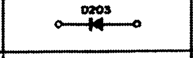
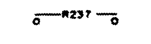
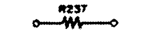
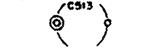
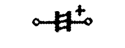
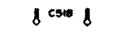
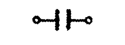
To POWER assembly CN5 (➡ P21)


To POWER assembly CN3 (➡ P21)
J1
VOL POSI
VOL DOWN
VOL UP
GND
CMK-140SX
POWER
S3001
IC2002
IC2001
VR2001
VR2002
C2004
C3100
SURROUND
S3009
SFC CLEAR
S3006
AUDITION
S3016
INST.
S3007
CN3
IC8100
TUNER
S3018
TAPE
S3025
CD
S3017
DAT/V
S3024
C3004
D318
D3017
SET/NEXT
S3002
DISPLAY
S3011
CLK. ADJ
S3020
AEB 196
1340A
D3009
D3010
D3011
WAKE UP/-
S3003
S3012
REC TIMER/+
IC3001
X3002

FRONT assembly
(AWZ3950 : HE, HB)
(AWZ3951 : HEWZI)

NOTE

1. This P.C.B connection diagram is viewed from the parts mounted side.
2. The parts which have been mounted on the board can be replaced with those shown with the corresponding wiring symbols listed in the following Table.

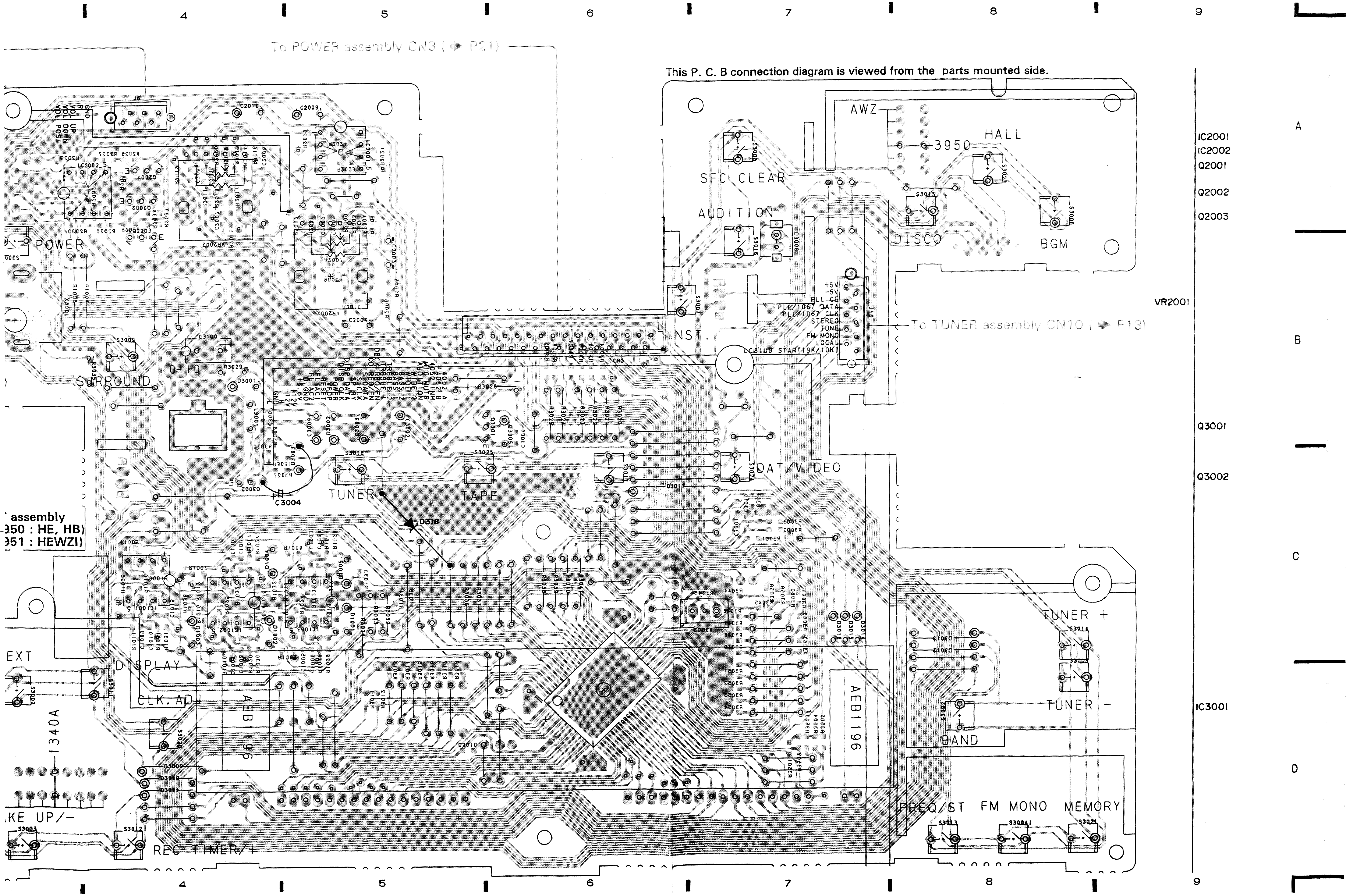
P.C.B. pattern diagram indication	Corresponding part symbol	Part Name
		Transistor
		Radiator type transistor
		Diode
		Resistor
		Capacitor (Polarized)
		Capacitor (Non-polarized)

Others

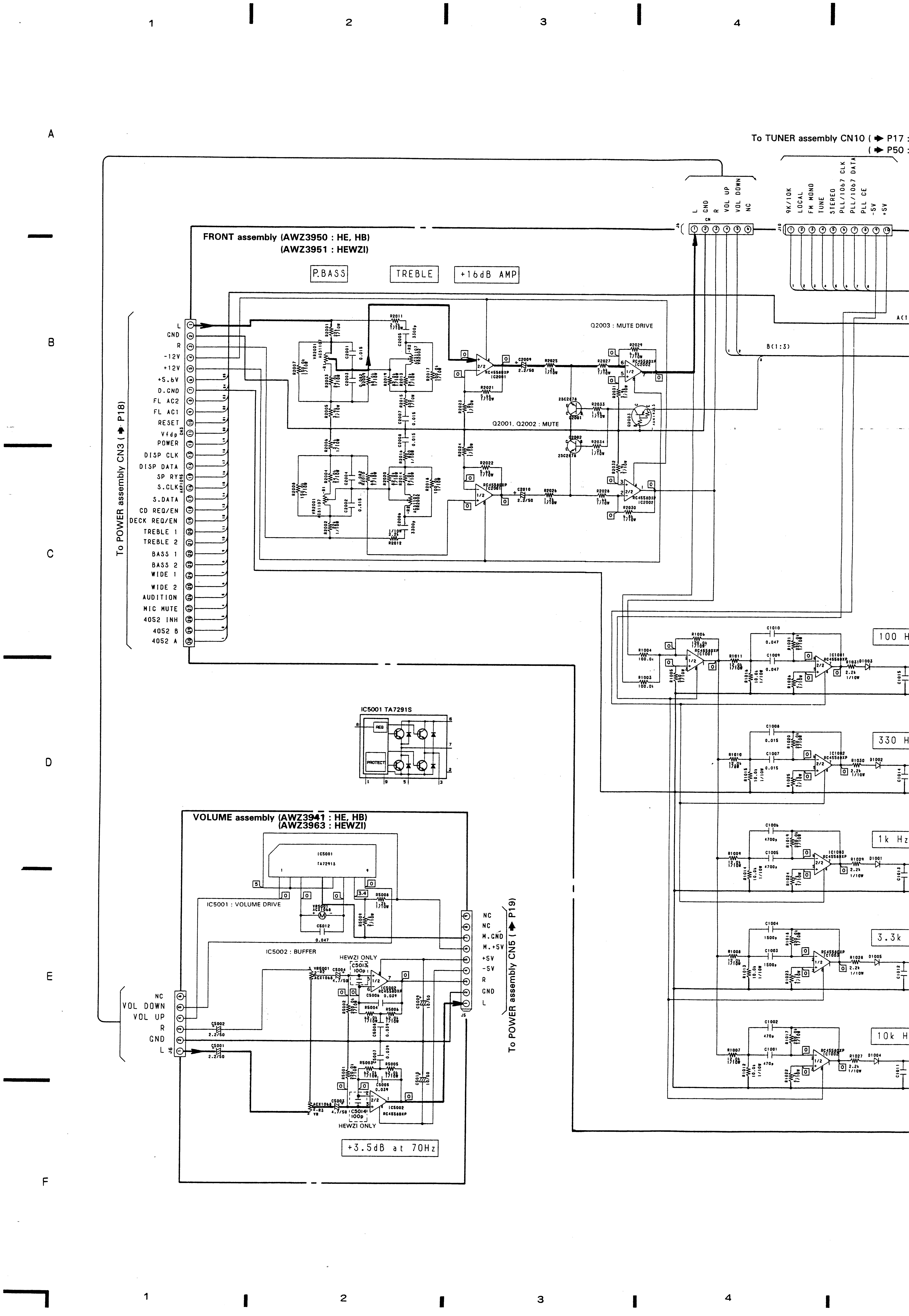
P.C.B. pattern diagram indication	Part Name
IC	IC
S	Switch
RY	Relay
L	Coil
F	Filter
VR	Variable resistor or Semi-fixed resistor

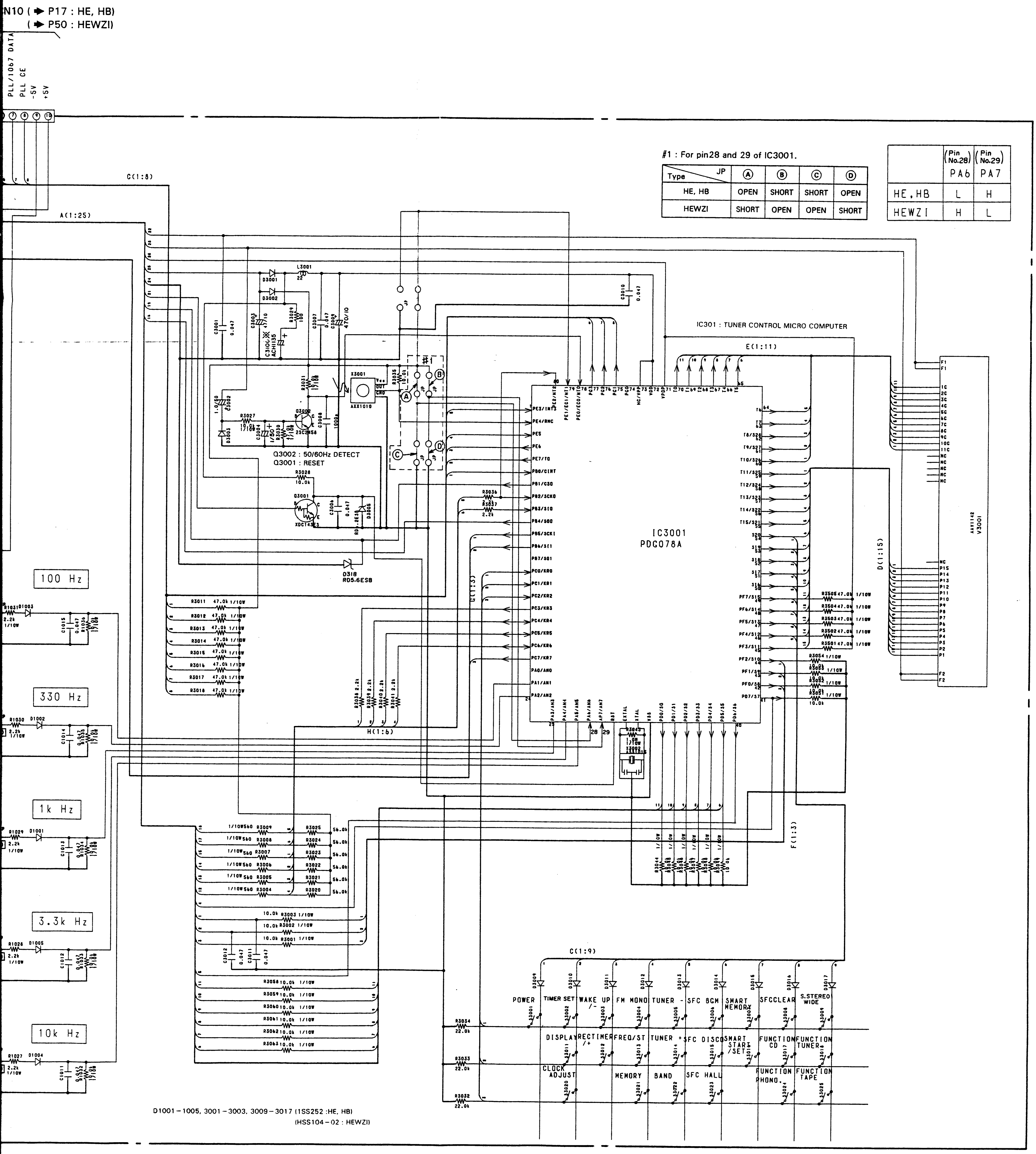
3. The capacitor terminal marked with ◎ (double circles) shows negatine terminal.
4. The diode terminal marked with ◎ (double circles) shows cathode side.
5. The transistor terminal to which E is affixed shows the emitter.

This P. C. B connection diagram is viewed from the parts mounted side.



4
5
6
7
8
9
To POWER assembly CN3 (➡ P21)
To TUNER assembly CN10 (➡ P13)
AWZ
3950
HALL
SFC CLEAR
AUDITION
DISCO
BGM
INST.
POWER
SURROUND
+5V
-5V
PLL CE
PLL/1067 DATA
PLL/1067 CLK
STEREO
TUNE
FM MONO
LOCAL
LC8100 START(9K/10K)
TUNER
TAPE
CD
DAT/VIDEO
D318
C3004
assembly
-950 : HE, HB)
951 : HEWZI)
EXT
DISPLAY
CLK. ADJ
AEB1196
1340A
KE UP/-
REC TIMER/+
TUNER +
TUNER -
BAND
FREQ/ST
FM MONO
MEMORY
IC2001
IC2002
Q2001
Q2002
Q2003
VR2001
Q3001
Q3002
IC3001
A
B
C
D


1
2
3
4
A
B
C
D
E
F
To TUNER assembly CN10 (➡ P17 :
(➡ P50 :
L
GND
R
VOL UP
VOL DOWN
NC
9K/10K
LOCAL
FM MONO
TUNE
STEREO
PLL/1067 CLK
PLL/1067 DATA
PLL CE
-5V
+5V
FRONT assembly (AWZ3950 : HE, HB)
(AWZ3951 : HEWZI)
P.BASS
TREBLE
+16dB AMP
Q2003 : MUTE DRIVE
Q2001, Q2002 : MUTE
B(1:3)
To POWER assembly CN3 (➡ P18)
L
GND
R
-12V
+12V
+5.6V
D.GND
FL AC2
FL AC1
RESET
Vfdp
POWER
DISP CLK
DISP DATA
SP RY
S.CLK
S.DATA
CD REQ/EN
DECK REQ/EN
TREBLE 1
TREBLE 2
BASS 1
BASS 2
WIDE 1
WIDE 2
AUDITION
MIC MUTE
4052 INH
4052 B
4052 A
RC4558DXP
IC2001
IC2002
100 H
330 H
1k Hz
3.3k
10k H
IC5001 TA7291S
REG
PROTECT
VOLUME assembly (AWZ3941 : HE, HB)
(AWZ3963 : HEWZI)
IC5001
TA7291S
IC5001 : VOLUME DRIVE
IC5002 : BUFFER
HEWZI ONLY
NC
VOL DOWN
VOL UP
R
GND
L
NC
NC
M.GND
M.+5V
+5V
-5V
R
GND
L
To POWER assembly CN5 (➡ P19)
+3.5dB at 70Hz



N10 (➡ P17 : HE, HB)
(➡ P50 : HEWZI)
PLL/1067 DATA
PLL CE
-5V
+5V
C(1:8)
A(1:25)
L3001
D3001
D3002
C3010
IC301 : TUNER CONTROL MICRO COMPUTER
E(1:11)
X3001
AXX1010
Q3002 : 50/60Hz DETECT
Q3001 : RESET
R3028 10.0k
Q3001
XDC143E3
D318 RD5.6ESB
IC3001
PDG078A
D(1:15)
AAV1142
V3001
100 Hz
330 Hz
1k Hz
3.3k Hz
10k Hz
H(1:6)
F(1:3)
C(1:9)
POWER
TIMER SET
WAKE UP /-
FM MONO
TUNER -
SFC BGM
SMART MEMORY
SFC CLEAR
S.STEREO WIDE
DISPLAY
RECTIMER /+
FREQ/ST
TUNER +
SFC DISCO
SMART START /SET
FUNCTION CD
FUNCTION TUNER
CLOCK ADJUST
MEMORY
BAND
SFC HALL
FUNCTION PHONO
FUNCTION TAPE
R3034 22.0k
R3033 22.0k
R3032 22.0k

#1 : For pin28 and 29 of IC3001.

Type \ JP	Ⓐ	Ⓑ	Ⓒ	Ⓓ
HE, HB	OPEN	SHORT	SHORT	OPEN
HEWZI	SHORT	OPEN	OPEN	SHORT

	(Pin No.28) PA6	(Pin No.29) PA7
HE, HB	L	H
HEWZI	H	L

D1001-1005, 3001-3003, 3009-3017 (1SS252 :HE, HB)
(HSS104-02 : HEWZI)

5. PCB PARTS LIST

NOTES:

- *Part without part number cannot be supplied.*
- *Parts marked by "◉" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *When ordering resistors, first convert resistance values into code form as shown in the following examples.*

Ex. 1 When there are 2 effective digits (any digit apart from 0), such as 560 ohm and 47k ohm (tolerance is shown by J = 5%, and K = 10%).

560Ω 56 × 10^1 561 ....RD1/8PM 5 6 1 J
47kΩ 47 × 10^3 473 ....RD1/4PS 4 7 3 J
0.5Ω 0R5 ....RN2H 0 R 5 K
1Ω 010 ....RS1P 0 1 0 K

Ex. 2 When there are 3 effective digits (such as in high precision metal film resistors).

5.62kΩ 562 × 10^1 5621 ....RN1/4SR 5 6 2 1 F

LIST OF ASSEMBLIES

Mark	No.	Description	Parts No.
◉		TRANS ASSEMBLY	AWZ3930
◉		POWER ASSEMBLY	AWZ3944
◉		TUNER ASSEMBLY	AWZ3938
◉		VOLUME ASSEMBLY	AWZ3941
◉		HEADPHONE ASSEMBLY	AWZ3942
◉		FRONT ASSEMBLY	AWZ3950

◉ TRANS ASSEMBLY (AWZ3930)

SEMICONDUCTORS

Mark	No.	Description	Parts No.
	IC705	IC PROTECTOR	ICP−N75
	IC706, 707	IC PROTECTOR	ICP−N38
	IC708	IC PROTECTOR	ICP−N75

◉ POWER ASSEMBLY (AWZ3944)

SEMICONDUCTORS

Mark	No.	Description	Parts No.
	IC101	LOGIC IC	MC14052BCP
	IC102, 103	OP−AMP IC	RC4558DXP
	IC302	OP−AMP IC	NJM4558LD
	IC401	SOUND PROCESSOR IC	PA0049
	IC403, 404	OP−AMP IC	RC4558DXP
	IC405	GEQ IC	LA3607
	IC501	AUDIO IC	STK4152−2GP
	IC701	REGULATOR IC	NJM7812FAS
	IC702	REGULATOR IC	NJM79M12FA
	IC703	REGULATOR IC	NJM78M56FAS
	IC704	IC PROTECTOR	ICP−N25
	Q601, 602	TRANSISTOR	2SC2458
	Q603	TRANSISTOR	2SA1048
	Q604	TRANSISTOR	XDC143ES
	Q605	TRANSISTOR	2SC2458
	Q606	TRANSISTOR	2SA1048
	Q607	TRANSISTOR	2SC2458
	Q608	TRANSISTOR	XDA143ES
	Q609	TRANSISTOR	XDC143ES
	Q610	TRANSISTOR	XDC124ES
	Q701	TRANSISTOR	2SC2603
	Q702	TRANSISTOR	2SC2458
	Q703	TRANSISTOR	2SA1115
	Q704	TRANSISTOR	XDA143ES
	Q705	TRANSISTOR	2SC2603
	Q707	TRANSISTOR	XDA143ES
	Q708	TRANSISTOR	XDC143ES
	Q709	TRANSISTOR	XDA143ES
	Q710	TRANSISTOR	2SC2458
	Q711	TRANSISTOR	XDA143ES
	D601−605	DIODE	1SS252
	D701	DIODE	RBV402
	D702−705	DIODE	S5566
	D707	ZENER DIODE	RD51ESB
	D708, 709	DIODE	S5566
	D710	ZENER DIODE	RD10ESB2
	D711	ZENER DIODE	RD75ESB2
	D712−714	DIODE	1SS252
	D715	ZENER DIODE	RD56ESB
	D716, 717	DIODE	1SS252
	D718, 719	DIODE	S5566
	D720, 721	ZENER DIODE	RD10ESB2

RELAIES

Mark	No.	Description	Parts No.
	RY501, 701	RELAY	ASR1035

COILS

Mark	No.	Description	Parts No.
	L501, 502	COIL	ATH-133

CAPACITORS

Mark	No.	Description	Parts No.
	C103, 104	CERAMIC CAPACITOR	CCCSL101J50
	C107	CERAMIC CAPACITOR	CCDSL101J50
	C108−110	CERAMIC CAPACITOR	CCCSL101J50

Mark	No.	Description	Parts No.
	C111, 112	ELECTR. CAPACITOR	CEAS2R2M50
	C113, 114	CERAMIC CAPACITOR	CKCYB152K50
	C115, 116	CERAMIC CAPACITOR	CKCYB562K50
	C117, 118	ELECTR. CAPACITOR	CEAS2R2M50
	C119, 120	ELECTR. CAPACITOR	CEAS470M10
	C301, 302	ELECTR. CAPACITOR	CEAS2R2M50
	C401, 402	ELECTR. CAPACITOR	CEAS2R2M50
	C407, 408	CERAMIC CAPACITOR	CKCYB682K50
	C409, 410	CERAMIC CAPACITOR	CKCYB102K50
	C411, 412	CERAMIC CAPACITOR	CKCYB562K50
	C413	CERAMIC CAPACITOR	CKCYX223M25
	C414	AUDIO FILM CAPACITOR	CFTXA474J50
	C415, 416	ELECTR. CAPACITOR	CEAS2R2M50
	C419	ELECTR. CAPACITOR	CEASR47M50
	C420	ELECTROLYTIC CAPACIT	CEAS6R8M50
	C421	CERAMIC CAPACITOR	CKCYX104M25
	C422	CERAMIC CAPACITOR	CKCYB182K50
	C423	CERAMIC CAPACITOR	CKCYX273M25
	C424	CERAMIC CAPACITOR	CKCYB102K50
	C425	CERAMIC CAPACITOR	CKCYX153M25
	C426	CERAMIC CAPACITOR	CKCYB472K50
	C427	CERAMIC CAPACITOR	CKCYX683M25
	C428	CERAMIC CAPACITOR	CKCYB272K50
	C429	CERAMIC CAPACITOR	CKCYX393M25
	C434	CERAMIC CAPACITOR	CKCYB561K50
	C435	CERAMIC CAPACITOR	CKCYB822K50
	C436	CERAMIC CAPACITOR	CKCYB561K50
	C437	CERAMIC CAPACITOR	CKCYB272K50
	C501	ELECTR. CAPACITOR	CEAS2R2M50
	C502	ELECTR. CAPACITOR	CEAS2R2M50
	C503, 504	CERAMIC CAPACITOR	CKCYB331K50
	C505, 506	ELECTR. CAPACITOR	CEAS220M25
	C507, 508	ELECTR. CAPACITOR	CEAS101M25
	C509, 510	ELECTR. CAPACITOR	CEAS100M50
	C511	ELECTROLYTIC CAPACIT	CEANP220M35
	C512	ELECTR. CAPACITOR	CEAS100M50
	C513	ELECTROLYTIC CAPACIT	CEANP470M50
	C514 – 517	CERAMIC CAPACITOR	CKCYX104M25
	C601	ELECTR. CAPACITOR	CEAS221M10
	C602	ELECTR. CAPACITOR	CEAS220M25
	C603, 604	ELECTR. CAPACITOR	CEAS100M50
	C605	ELECTR. CAPACITOR	CEAS100M25
	C701, 702	ELECTROLYTIC CAPACIT (2200/42)	ACH1109
	C703	CKA (0.01/AC250V)	ACG1005
	C704	ELECTR. CAPACITOR	CEAS222M25
	C705	ELECTROLYTIC CAPACIT	CEHAQ470M16
	C707, 708	ELECTR. CAPACITOR	CEAS100M25
	C709	ELECTR. CAPACITOR	CEAS102M25

Mark	No.	Description	Parts No.
	C710, 711	ELECTROLYTIC CAPACIT	CEHAQ100M25
	C712	ELECTROLYTIC CAPACIT	CEAS331M50
	C713	ELECTROLYTIC CAPACIT	CEAS470M63
	C715	ELECTROLYTIC CAPACIT	CEHAQ220M50
	C716	ELECTR. CAPACITOR	CEHAQ100M50
	C717	ELECTR. CAPACITOR	CEAS100M50
	C718	ELECTR. CAPACITOR	CEAS4R7M50
	C719	ELECTROLYTIC CAPACIT	CEHAQ470M50
	C720	ELECTR. CAPACITOR	CEAS102M16

RESISTORS

Mark	No.	Description	Parts No.
	R503, 504	CARBON FILM RESISTOR	RD1/4PM104J
	R505, 506	CARBON FILM RESISTOR	RD1/4PM821J
	R507 – 509	CARBON FILM RESISTOR	RD1/4PM222J
	R510	CARBON FILM RESISTOR	RD1/4PM222J
	R511, 512	CARBON FILM RESISTOR	RD1/4PM104J
	R513, 514	CARBON FILM RESISTOR	RD1/4PMFL101J
	R515	CARBON FILM RESISTOR	RD1/4PM102J
	R516	CARBON FILM RESISTOR	RD1/4PM222J
	R517	CARBON FILM RESISTOR	RD1/4PMFL222J
	R518	CARBON FILM RESISTOR	RD1/4PMFL471J
	R519, 520	CARBON FILM RESISTOR	RD1/4PM100J
	R521, 522	FUSLIBLE RESISTOR	RFA1/4PL100J
	R615, 616	METAL OXIDE RESISTOR	RS2LMFR22J
	R701, 704	METAL OXIDE RESISTOR	RS2LMF181J
	R706	CARBON FILM RESISTOR	RD1/4PM392J
	R710, 711	METAL OXIDE RESISTOR	RS2LMF221J
	R712	METAL OXIDE RESISTOR	RS2LMF222J
	R713	METAL OXIDE RESISTOR	RS2LMF272J
		Other resistors	RD1/8PM□□□J

OTHERS

Mark	No.	Description	Parts No.
	CN3	30P SOCKET	AKP1094
	CN5	CONNECTOR (9P)	KPE9
	CN7	SOCKET (17P)	AKP1101
		PIN JACK 2P (PHONO)	AKB1100
		SPEAKER TERMINAL 4 – P	AKE1012

◉ TUNER ASSEMBLY (AWZ3938)

SEMICONDUCTORS

Mark	No.	Description	Parts No.
	IC901	PLL IC	LM7001
	IC902	AM/FM IC	LA1265S
	IC903	MPX IC	AN7470P
	Q901	N−FET	2SK246
	Q902	TRANSISTOR	2SC1740SLN
	Q903, 904	TRANSISTOR	RN1203
	Q905−907	TRANSISTOR	RN2201
	Q909	TRANSISTOR	2SC2668
	Q910, 911	TRANSISTOR	2SC2458
	Q915, 916	TRANSISTOR	RN1203
	Q917	N−FET	2SK246
	D318	ZENER DIODE	RD5.6ESB
	D906, 907	DIODE	HSS104−02
	D909−911	DIODE	HSS104−02

COILS

Mark	No.	Description	Parts No.
	F903	CERAMIC FILTER	ATF−119
	F904	CERAMIC FILTER	ATF1042
	F905	CERAMIC FILTER	ATF−107
	F906	FILTER	ATF1088
	L901, 903	AXIAL INDUCTOR	LAU2R2M
	L904	AXIAL INDUCTOR	LAU010M
	L905	AXIAL INDUCTOR	LAU2R2M
	L907	COIL	ATE−079
	L908	AXIAL INDUCTOR	LAU2R2M

CAPACITORS

Mark	No.	Description	Parts No.
	C901	ELECTR. CAPACITOR	CEAS330M16
	C903, 904	CERAMIC CAPACITOR	CKDYX473M25
	C905	AUDIO FILM CAPACITOR	CFTXA103J50
	C906	AUDIO FILM CAPACITOR	CFTXA224J50
	C907	CERAMIC CAPACITOR	CKDYX473M25
	C909	CERAMIC CAPACITOR	CKDYF103Z50
	C912−914	CERAMIC CAPACITOR	CCDCH150J50
	C915	CERAMIC CAPACITOR	CKDYF223Z50
	C916	AXIAL CERAMIC CAPACITOR	CKPUYF103Z25
	C919, 921	AXIAL CERAMIC CAPACITOR	CKPUYF473Z16
	C922	CERAMIC CAPACITOR	CKDYF223Z50
	C923	AXIAL CERAMIC CAPACITOR	CKPUYF223Z25
	C924	ELECTR. CAPACITOR	CEAS470M10
	C925	AXIAL CERAMIC CAPACITOR	CKPUYF103Z25
	C926	ELECTR. CAPACITOR	CEAS101M16
	C927	CERAMIC CAPACITOR	CCDSL470J50
	C928	ELECTR. CAPACITOR	CEAS470M10
	C929	AXIAL CERAMIC CAPACITOR	CKPUYF103Z25
	C930	ELECTR. CAPACITOR	CEAS101M16
	C931	AXIAL CERAMIC CAPACITOR	CKPUYF223Z25
	C932−935	CERAMIC CAPACITOR	CKDYF223Z50
	C936	ELECTR. CAPACITOR	CEAS4R7M50
	C937	CERAMIC CAPACITOR	CKDYF223Z50
	C938	ELECTR. CAPACITOR	CEAS010M50
	C939	CERAMIC CAPACITOR	CCDSL271J50
	C940	CERAMIC CAPACITOR	CKDYB222K50
	C941	CERAMIC CAPACITOR	CKDYF473Z50
	C942	ELECTR. CAPACITOR	CEAS2R2M50
	C943	ELECTR. CAPACITOR	CEAS470M10
	C944	ELECTR. CAPACITOR	CEAS0R1M50
	C945	ELECTR. CAPACITOR	CEANP2R2M50
	C946	ELECTR. CAPACITOR	CEAS470M16
	C947	CERAMIC CAPACITOR	CKDYF473Z50
	C948	CAPACITOR (470p)	ACE1039
	C949	ELECTROLYTIC CAPACIT	CEAS1R5M50
	C950	ELECTR. CAPACITOR	CEAS3R3M50
	C951	ELECTR. CAPACITOR	CEAS470M10
	C952, 953	CERAMIC CAPACITOR	CKDYB122K50
	C955	ELECTR. CAPACITOR	CEASR22M50
	C956	CERAMIC CAPACITOR	CKDYB122K50
	C957, 958	ELECTR. CAPACITOR	CEAS2R2M50
	C959	AXIAL CERAMIC CAPACITOR	CKPUYF223Z25
	C960	ELECTR. CAPACITOR	CEAS0R1M50
	C961, 962	CERAMIC CAPACITOR	CKDYB272K50
	C963	ELECTR. CAPACITOR	CEAS2R2M50
	C964	CERAMIC CAPACITOR	CKPUYB101K50
	C965	CERAMIC CAPACITOR	CKPUYB102K50
	C967	ELECTR. CAPACITOR	CEAS101M16

RESISTORS

Mark	No.	Description	Parts No.
	VR901	VR (10k)	ACP−105
	VR902	VR (20k)	ACP1004
	VR903	VR (5.0k)	ACP1015
		Other resistors	RD1/8PM☐☐☐J

OTHERS

Mark	No.	Description	Parts No.
	CN10	CONNECTOR (10P)	KPE10
	X901	CRYSTAL RESONATOR	ASS1042
	X902	CERAMIC RESONATOR	ATF1027
		ANTENNA TERMINAL 4−P	AKA1010
		AM RF TUNING BLOCK	AXX1026
		2 SERIAL F.E. MODULE ASSEMBLY	AXQ1002

◉ VOLUME ASSEMBLY (AWZ3941)

SEMICONDUCTORS

Mark	No.	Description	Parts No.
	IC5001	MECHANISM DRIVER IC	TA7291S
	IC5002	OP−AMP IC	RC4558DXP

CAPACITORS

Mark	No.	Description	Parts No.
	C5001, 5002	ELECTR. CAPACITOR	CEAS2R2M50
	C5003, 5004	ELECTR. CAPACITOR	CEAS4R7M50
	C5005–5008	CHIP CAPACITOR	CKSQYB393K50
	C5009, 5010	ELECTR. CAPACITOR	CEAS100M25
	C5012	CERAMIC CAPACITOR	CKCYF473Z50

RESISTORS

Mark	No.	Description	Parts No.
	VR5001	VARIABLE RESISTOR (100k)	ACX1068
		Other resistors	RS1/10S□□□J

◉ HEADPHONE ASSEMBLY (AWZ3942)

CAPACITORS

Mark	No.	Description	Parts No.
	C599	CERAMIC CAPACITOR	CKCYX473M25

RESISTORS

Mark	No.	Description	Parts No.
	R523, 524	METAL OXIDE RESISTOR	RS1LMF331J
	R599	CARBONFILM RESISTOR	RD1/8PM100J

OTHERS

Mark	No.	Description	Parts No.
	CN	JACK (HEADPHONE)	AKN1028

◉ FRONT ASSEMBLY (AWZ3950)

SEMICONDUCTORS

Mark	No.	Description	Parts No.
	IC1001–1003	OP–AMP IC	RC4558DXP
	IC2001, 2002	OP–AMP IC	RC4558DXP
	IC3001	CONTROL MCU	PDG078A
	Q2001, 2002	TRANSISTOR	2SC2878
	Q2003	TRANSISTOR	XDA143ES
	Q3001	TRANSISTOR	XDC143ES
	Q3002	TRANSISTOR	2SC2458
	D1001–1005	DIODE	1SS252
	D3001–3003	DIODE	1SS252
	D3005	ZENER DIODE	RD6.2ESB
	D3009–3017	DIODE	1SS252

SWITCHES

Mark	No.	Description	Parts No.
	S3001–3009	SWITCH (POWER, TIMER SET, WAKE UP/–, FM MONO, TUNER–, SFC BGM, SMART MEMORY, SFC CLEAR,.S.STEREO WIDE)	ASG1034
	S3011–3018	SWITCH (DISPLAY, REC TIMER/+, FREQ/ST, TUNER+, SFC DISCO, SMART START/SET, FUNCTION CD, FUNCTION TUNER)	ASG1034
	S3020–3025	SWITCH (CLOCK ADJUST, MEMORY, BAND, SFC HALL, FUNCTION PHONO, FUNCTION TAPE)	ASG1034

COIL

Mark	No.	Description	Parts No.
	L3001	AXIAL INDUCTOR	LAU220K

CAPACITORS

Mark	No.	Description	Parts No.
	C1001, 1002	CERAMIC CAPACITOR	CKSQYB471K50
	C1003, 1004	CERAMIC CAPACITOR	CKSQYB152K50
	C1005, 1006	CERAMIC CAPACITOR	CKSQYB472K50
	C1007, 1008	CERAMIC CAPACITOR	CKSQYB153K50
	C1009–1015	CERAMIC CAPACITOR	CKSQYF473Z50
	C2001, 2002	CERAMIC CAPACITOR	CKSQYB153K50
	C2003, 2004	CERAMIC CAPACITOR	CKDYX823M16
	C2005, 2006	CERAMIC CAPACITOR	CKSQYB332K50
	C2007, 2008	CERAMIC CAPACITOR	CKSQYB153K50
	C2009, 2010	ELECTR. CAPACITOR	CEJA2R2M50
	C3001	CERAMIC CAPACITOR	CKSQYF473Z50
	C3002	ELECTR. CAPACITOR	CEJA010M50
	C3003	ELECTR. CAPACITOR	CEJA470M10
	C3004	ELECTROLYTIC CAPACIT	CEAS010M50
	C3006, 3007	CERAMIC CAPACITOR	CKSQYF473Z50
	C3008	CHIP CAPACITOR	CKSQYB102K50
	C3009	ELECTR. CAPACITOR	CEAS471M10
	C3010–3012	CERAMIC CAPACITOR	CKSQYF473Z50
	C3100	CAPACITOR (0.047/5.5)	ACH1135

RESISTORS

Mark	No.	Description	Parts No.
	VR2001	VARIABLE (100k– ×2)	ACS1107
	VR2002	VARIABLE (100k– ×2)	ACS1107
	R1003, 1004	CARBONFILM RESISTOR	RD1/8PM104J
	R3020–3025	CARBONFILM RESISTOR	RD1/8PM563J
	R3028	CARBONFILM RESISTOR	RD1/8PM103J
	R3029	CARBONFILM RESISTOR	RD1/8PM101J
	R3032–3024	CARBONFILM RESISTOR	RD1/8PM223J
	R3035	CARBONFILM RESISTOR	RD1/8PM103J
	R3036–3041	CARBONFILM RESISTOR	RD1/8PM222J
		Other resistors	RS1/10S□□□J

OTHERS

Mark	No.	Description	Parts No.
	V3001	FL TUBE	AAV1142
	X3002	CRYSTAL RESONATOR	ASS1015
	CN3	30P SOCKET	AKP1095
		FL SPACER	AEB1196
		REMOTE RECEIVER UNIT	AXX1010

6. ADJUSTMENTS

- As to connections and points to be adjusted, refer to Fig. 6−1.
- Where and asterisk (*) is given for "level dBμV", set to the level (dBμV) at which the voltage is roughly half the voltage between TP904 and GND at 60dB.

6.1 FM TUNER ADJUSTMENT

- Set the BAND selector to "FM".
- Perform VCO adjustment two minutes or more after turning the power ON.

Note :
Stereo modulation : Main 1kHz L+R ±68.25kHz dev.
Pilot 19kHz ±6.75kHz dev.

Step No.	Adjustment title	FM SG (1kHz±75kHz dev.)		Reception frequency display	Adjustment location	Specifications
		Frequency (MHz)	Level (dBμV)			
1	Detector coil T-meter adjustment	98.0	80	98.0MHz	L907	Adjust so that the DC voltage between the TP901 and TP902 is 0±50mV.
2	VCO adjustment	98.0 Non modulation	80	98.0MHz	VR903	Adjust so that the frequency between TP905 and GND is 76±0.5kHz.
3	TUNED indicator sensitivity adjustment	98.0 (Stereo modulation)	18 (±3dB)	98.0MHz	VR902	Adjust so that the indicator lights up.

6.2 AM TUNER ADJUSTMENT

- Set the BAND selector "AM".

Note : Adjustment marked with "※"is only for HEWZI.

Step No.	Adjustment title	AM SG (400Hz 30% Mod.)		Reception frequency display	Adjustment location	Specifications
		Frequency (kHz)	Level (dBμV)			
1	Tracking adjustment ※	603	*	603kHz	MW block ANT coil	Adjust so that the DC voltage between TP904 and GND is maximum.
2		1395		1395kHz	TC901	
3		Repeat 1 and 2 above				
4	IFT adjustment※	603	*	603kHz	F904	
5	TUNED indicator sensitivity adjustment	999	55±5	999kHz	VR901	Adjust so that the indicator lights up.

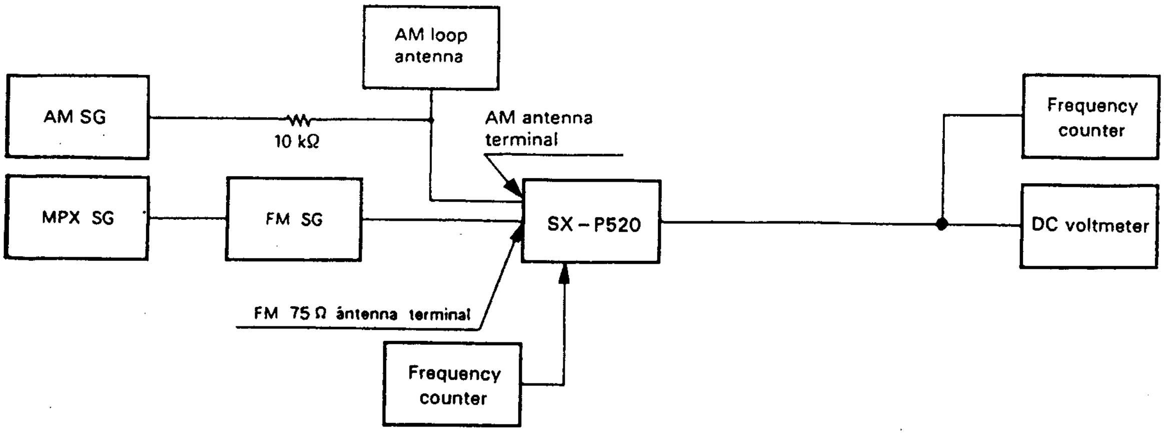


Fig. 6−1 FM and AM adjustment wiring diagram

6. REGLAGE

- Les raccordements et les points de réglages sont représentés à la Fig. 6−1.
- Lorsqu'un astèrisque accompagne un "niveau dBμV", régler à un niveau (dBμV) tel que la tension soit à peu près la moitié de celle qui est présente entre TP904 et GND pour 60dB.

6.1 REGLAGE DU SYNTONISEUR FM

- Placer le sélecteur BAND sur la position "FM".
- Régler le VCO après deux minutes (ou plus) de mise sous tension.

Note :
Modulation stéréo : Principal 1kHz L+R ±68,25kHz dev.
Pilote 19kHz ±6,75kHz dev.

Etape No.	Items de réglage	FM SG (1kHz±75kHz dév.)		Affichage de fréquence de réception	Liea de réglage	Caractéristiques
		Fréquence (MHz)	Niveau (dBμV)			
1	Réglage de la bobine de détection	98,0	80	98,0MHz	L907	Régler de manière que la tension continue entre TP901 et TP902 soit égale à 0±50mV.
2	Réglage du VCO	98,0 Sans modulation	80	98,0MHz	VR903	Régler de manière que la fréquence entre TP905 et GND soit égale à 76±0,5kHz.
3	Indicateurs de TUNED Niveau d'éclairement	98,0 (Stéréo modulation)	18 (±3dB)	98,0MHz	VR902	Le régler de manière que les indicateurs de TUNED commencent à s'allumer.

6.2 REGLAGE DU SYNTONISEUR AM

- Placer le sélecteur BAND sur la position "AM".

Note : Le réglage indiqué par ※ n'est que pour HEWZI.

Etape No.	Items de réglage	AM SG (400Hz 30% Mod.)		Affichage de fréquence de réception	Liea de réglage	Caractéristiques
		Fréquence (kHz)	Niveau (dBμV)			
1	Reglage de l'alignement ※	603	*	603kHz	Bobine-antenne bloc PO	Régler de manière que la tension continue entre TP904 et GND soit maximale.
2		1395		1395kHz	TC901	
3		Répète 1 et 2 ci-dessus.				
4	Réglage IFT※	603	*	603kHz	F904	
5	Indicateurs de TUNED Niveau d'éclairement	999	55±5	999kHz	VR901	Le régler de manière que les indicateurs de TUNED commencent à s'allumer.

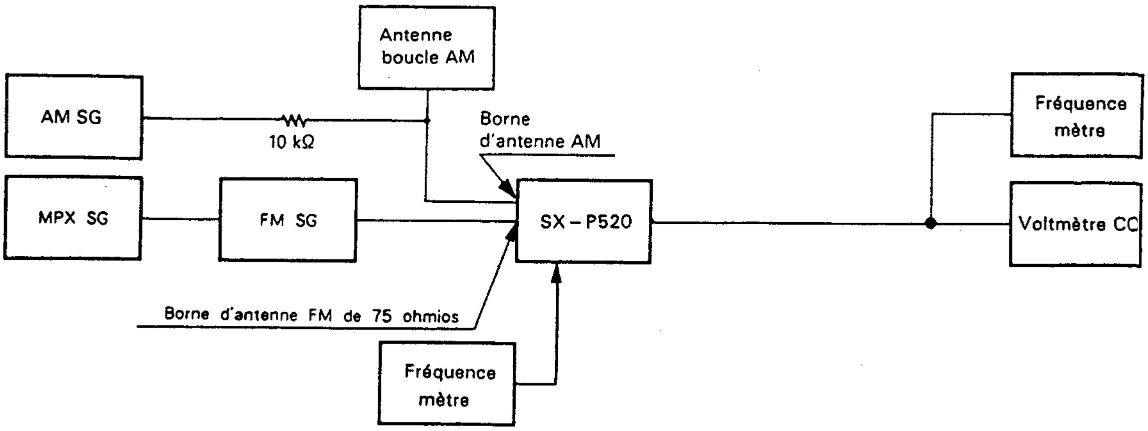


Fig. 6−1 Diagramme de càblage de réglage FM et AM

6. AJUSTE

- Para las conexiones y puntos de ajuste, refiérase a la Fig. 6−1.
- Donde un asterisco (*) represente el "nivel dBμV", ajuste al nivel (dBμV) en el que la tensión sea aproximadamente la mitad de la tensión entre TP904 y GND a 60dB.

6.1 AJUSTE DE LA SECCIÓN DEL SINTONIZADOR DE FM

- Ajuste el selector BAND a la posición "FM".
- Realice el ajuste VCO dos minutos o más después de conectar la alimentación.

Nota :
Modulación estéreo : Principal 1kHz L+R ±68,25kHz dev.
Pilot 19kHz ±6,75kHz dev.

N° de paso	Items de ajuste	FM SG (1kHz±75kHz dev.)		Fresuenci metro de recepción	Lugar de Ajuste	Especificaciones
		Frecuencia (MHz)	Nivel (dBμV)			
1	Ajuste del medidor T de la bobina detectora	98,0	80	98,0MHz	L907	Ajuste de manera que la tensión de CC entre TP901 y TP 902 sea de 0±50mV.
2	Aduste VCO	98,0 Sin moduiación	80	98,0MHz	VR903	Ajuste de manera que la frequencia entre TP905 y GND sea de 76±0,5kHz.
3	Nivel de iluminación de TUNED.	98.0 (Modulation estéreo)	18 (±3dB)	98,0MHz	VR902	Ajústelo de forma que los indicadores de TUNED comiencen a encenderase.

6.2 AJUSTE DE LA SECCIÓN DEL SINTONIZADOR DE AM

- Ajuste el selector BAND a la posición "AM".

Nota : El ajuste marcado con ※ es sólo para HEWZI.

N° de paso	Items de ajuste	AM SG (400Hz 30% Mod.)		Fresuenci metro de recepción	Lugar de Ajuste	Especificaciones
		Frecuencia (kHz)	Nivel (dBμV/m)			
1	Ajuste de alineación ※	603	*	603kHz	Bobina de antena colectiva de MW	Ajuste de manera que la tensión de CC entre TP904 y GND sea la máxima.
2		1395		1395kHz	TC901	
3		Repita los pasos 1 y 2 arriba descritos				
4	Ajuste de IFT※	603	*	603kHz	F904	
5	Nivel de iluminación de TUNED.	999	55±5	999kHz	VR901	Ajústelo de forma que los indicadores de TUNED comiencen a encenderase.

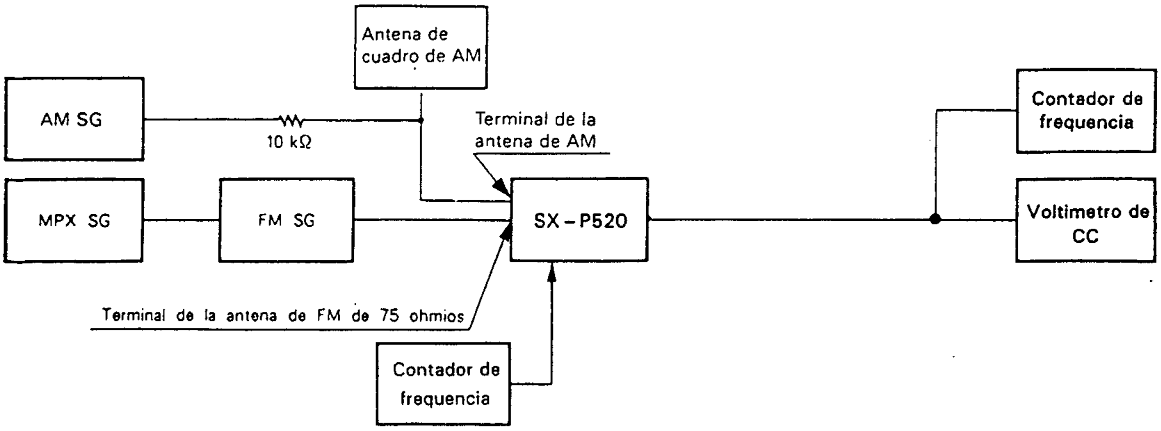


Fig. 6−1 Diagramma de conexión de ajuste de FM y AM

7. IC INFORMATION

■ PDG078A (IC3001) : TUNER CONTROL MICRO-COMPUTER

● Pin Function

No.	Function Name	I/O	Description	ACT-IVE
1	STEREO	I	STEREO Signal	L
2	REMOCON	I	REMOCON Signal	
3	TUNE	I	TUNE Signal	L
4	MONO	O	FM MONO Output	H
5	LOCAL	O	FM LOCAL Output	H
6	9k/10k	I	Switching Channel Step Frequency	H : 9k
7	POWER	O	POWER ON/OFF Switching	L
8	DISP CLK	I	CLOCK Input for CD display data communication.	
9	DISP DATA	I	DATA Input for CD display data communication.	
10	SP RELAY	O	Relay control for speaker.	L
11	VOL UP	O	Output for motor VR control IC (TA7291S).	H
12	VOL DOWN	O	Output for motor VR control IC (TA7291S).	H
13	NC	O	NC	
14	KEY IN1	I	Key Scan Input 1	H
15	KEY IN2	I	Key Scan Input 2	H
16	KEY IN3	I	Key Scan Input 3	H
17	S. CLK	O	CLOCK Output for system bus communication.	
18	S. DATA	I/O	DATA Input/Output for system bus communication.	
19	REQ/EN CD	I/O	CD Communication Request/Enable for system bus communication.	
20	REQ/EN DECK	I/O	DECK Communication Request/Enable for system bus communication.	
21	MUTE	O	LINE MUTE Control	H
22	VOL POSITION	I	NC	
23	BPF IN 1	I	A/D input (100Hz) for spectrum analyzer BPF	

No.	Function Name	I/O	Description	ACT-IVE
24	BPF IN 2	I	A/D input (330Hz) for spectrum analyzer BPF	
25	BPF IN 3	I	A/D input (1kHz) for spectrum analyzer BPF	
26	BPF IN 4	I	A/D input (3.3kHz) for spectrum analyzer BPF	
27	BPF IN 5	I	A/D input (10kHz) for spectrum analyzer BPF	
28	MODEL A	I	Port A for switching destination L : HE, HB types H : HEWZI, KUC, SD, YPW types	
29	MODEL B	I	Port B for switching destination L : HEWZI type H : HE, HB, KUC, SD, YPW types	
30	RET		MICRO-COMPUTER RESET Input	L
31	EXTAL		Connected to ceramic oscillator (ASS1015) (8MHz).	
32	XTAL			
33	Vss	GND	Reference Voltage (GND)	
34	TREBLE 1	O	Control Output for SFC IC (PA0049)	
35	TREBLE 2	O		
36	BASS 1	O		
37	BASS 2	O		
38	WIDE 1	O		
39	WIDE 2	O		
40	AUDITION	O	AUDITION ON/OFF	H
41	MIC MUTE	O	Mic Mixing cancel (Playing ASES)	H
42	4052 INH	O	FUNCTION switching IC Control Output	
43	4052 B	O	FUNCTION switching IC Control Output	
44	4052 A	O	FUNCTION switching IC Control Output	
45	FL S1	O	FL Control Segment Output	

No.	Function Name	I/O	Description	ACTIVE
46	FL S2/K09	O	FL Cotrol Segment Output/ Key Scan Strobe Output	
47	FL S3/K08	O		
48	FL S4/K07	O		
49	FL S5/K06	O		
50	FL S6/K05	O		
51	FL S7/K04	O		
52	FL S8/K03	O		
53	FL S9/K02	O		
54	FL S10/K01	O		
55	FL S11	O	FL Control Segment Output	
56	FL S12	O		
57	FL S13	O		
58	FL S14	O		
59	FL S15	O		
60	FL 11G	O	FL Control Timing Output	
61	FL 10G	O		
62	FL 9G	O		
63	FL 8G	O		
64	FL 7G	O		
65	FL 6G	O		
66	FL 5G	O		
67	FL 4G	O		
68	FL 3G	O		
69	FL 2G	O		
70	FL 1G	O		
71	Vfdp	I	−30V FDP load power Input	
72	Vdd	I	+5V Power Supply Input	
73	NC	O	NC	
74	1067 STB	O	Chip enable for Port expander IC	H
75	PLL EC	O	Chip enable for Tuner PLL IC	H
76	PLL/1067 DATA	O	Data for Tuner PLL IC and Port expander IC	
77	PLL/1067 CLK	O	Clock for Tuner PLL IC and Port expander IC	
78	50/60Hz IN	I	AC pulse Input	
79	MODEL C	I	Port C for switching destination L : SINGLE CD H : TWIN/MULTI CD	
80	DISP CLK	I	CLOCK Input for CD display data communication	

8. FOR HB AND HEWZI TYPES

NOTES:

- *Part without part number cannot be supplied.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *Parts marked by "◉" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.*

8.1 CONTRAST OF MISCELLANEOUS PARTS

SX-P520/HB, HEWZI and SX-P520/HE have the same construction except for the following :

Mark	**Symbol & Description**	**Part No.**			**Remarks**
		SX-P520/ HE type	**SX-P520/ HB type**	**SX-P520/ HEWZI type**	
◉	POWER assembly	AWZ3944	AWZ3944	AWZ3945	
◉	TRANS assembly	AWZ3930	AWZ3930	AWZ4239	
◉	FRONT assembly	AWZ3950	AWZ3950	AWZ3951	
◉	TUNER assembly	AWZ3938	AWZ3938	AWZ3939	
◉	VOLUME assembly	AWZ3941	AWZ3941	AWZ3963	
◉	HEADPHONE assembly	AWZ3942	AWZ3942	AWZ3943	
⚠	C1 Capacitor (0.01/AC400V)	....	....	ACG1003	
⚠	AC Power cord	ADG1049	ADG1087	ADG1012	
	Screw	....	....	ABA-115	GND screw for C523, C524 and C526
	FM antenna	ADH1005	ADH1005	....	
	FM antenna assembly	....	....	ADH1002	
	Operating instructions (Dutch, Swedish, Spanish, Portuguese)	ARC1324	....	....	For RECEIVER
	Operating instructions (Dutch, Swedish, Spanish, Portuguese)	ARC1337	....	....	For CASSETTE, CD
	Operating instructions (English, French, Germam, Italian)	ARE1223	....	....	For RECEIVER
	Operating instructions (English, French, Germam, Italian)	ARE1233	....	....	For CASSETTE, CD
	Operating instructions (English)	....	ARB1362	....	For RECEIVER
	Operating instructions (English)	....	ARB1364	....	For CASSETTE, CD
	Operating instructions (German, Italian)	....	....	ARC1336	For RECEIVER
	Operating instructions (German, Italian)	....	....	ARC1340	For CASSETTE, CD

◉ POWER ASSEMBLY (AWZ3945)

POWER assembly (AWZ3945) and POWER assembly (AWZ3944) have the same construction except for the following :

Mark	Symbol & Description	Part No.		Remarks
		AWZ3944	AWZ3945	
	D601−D605	1SS252	HSS104−02	
	D712−D714, D716, D717	1SS252	HSS104−02	
	L501, L502	ATH−133	ATH−059	
	L503, L504	....	ATH−059	
	C103, C104, C108	CCCSL101J50	CKCYB391K50	
	C107	CCDSL101J50	CKCYB391K50	
	C151, C152, C155−C157, C160, C171, C172	....	CKCYB471K50	
	C153	....	CCCSL470J50	
	C154	....	CCDSL470J50	
	C158, C159, C161, C162	....	CKDYB471K50	
	C163, C164	....	CCCSL101J50	
	C165, C166	....	CKCYB391K50	
	C503, C504	CKCYB331K50	....	
	C518, C519	....	CKCYF103Z50	
	C521, C522, C526	....	CCDSL101J50	
	C523, C524	....	CKDYB102K50	
	C703 (0.01μF/AC250V)	ACG1005	....	
	C703	....	CQMA473K250	
	C713	CEAS470M63	CEAS470M100	
	R121, R122, R501, R502	RD1/8PM102J	RD1/8PM222J	
	R151, R152	....	RD1/8PM221J	
	R153, R154	....	RD1/8PM471J	
	R155−R158	....	RD1/8PM101J	

◉ TRANS ASSEMBLY (AWZ4239)

TRANS assembly (AWZ4239) and TRANS assembly (AWZ3930) have the same construction except for the following :

Mark	Symbol & Description	Part No.		Remarks
		AWZ3930	AWZ4239	
	C11, C12	....	CQMXA473J100	

◉ FRONT ASSEMBLY (AWZ3951)

FRONT assembly (AWZ3951) and FRONT assembly (AWZ3950) have the same construction except for the following :

Mark	Symbol & Description	Part No.		Remarks
		AWZ3950	AWZ3951	
	D1001–D1005 D3001–D3003 D3009–D3017	1SS252 1SS252 1SS252	HSS104–02 HSS104–02 HSS104–02	

◉ VOLUME ASSEMBLY (AWZ3963)

VOLUME assembly (AWZ3963) and VOLUME assembly (AWZ3941) have the same construction except for the following :

Mark	Symbol & Description	Part No.		Remarks
		AWZ3941	AWZ3963	
	C5013, C5014	....	CCSQSL101J50	

◉ HEADPHONE ASSEMBLY (AWZ3943)

HEADPHONE assembly (AWZ3943) and HEADPHONE assembly (AWZ3942) have the same construction except for the following :

Mark	Symbol & Description	Part No.		Remarks
		AWZ3942	AWZ3943	
	C551, C552	....	CCCSL101J50	

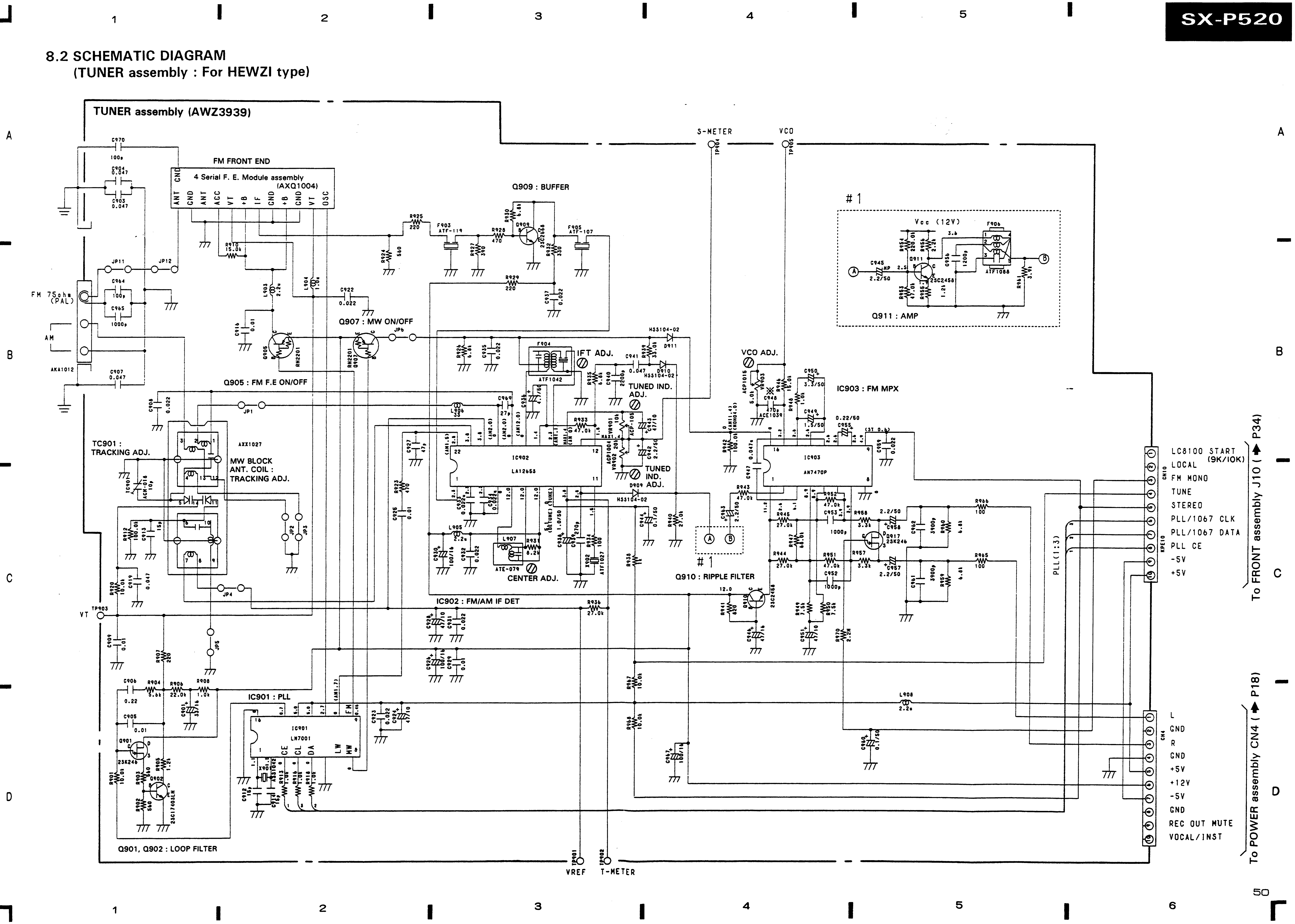
◉ TUNER ASSEMBLY (AWZ3939)

TUNER assembly (AWZ3939) and TUNER assembly (AWZ3938) have the same construction except for the following :

Mark	Symbol & Description	Part No.		Remarks
		AWZ3938	AWZ3939	
	Q903, Q904, Q915, Q916	RN1203	....	
	Q906	RN2201	....	
	D906, D907	HSS104-02	....	
	L901	LAU2R2M	....	
	L906	....	LAU330K	
	TC901	....	ACM-018	
	C908	....	CKPUYF223Z25	
	C915	CKDYF223Z50	....	
	C921	CKPUYF473Z16	....	
	C952, C953	CKDYB122K50	CKDYB102K50	
	C961, C962	CKDYB272K50	CKDYB392K50	
	C969	....	CCDCH270J50	
	C970	....	CCDCH101J50	
	R911, R914, R919	RD1/8PM103J	....	
	R915, R917	RD1/8PM102J	....	
	R924	RD1/8PM331J	RD1/8PM561J	
	R925	....	RD1/8PM221J	
	R955	RD1/8PM152J	RD1/8PM122J	
	R959, R960	RD1/8PM392J	RD1/8PM682J	
	2 Serial F.E. module assembly	AXQ1002	....	
	4 Serial F.E. module assembly	....	AXQ1004	
	4P antenna terminal with PAL	AKA1010	....	
	2P antenna terminal with PAL	....	AKA1012	
	AM RF Tuning block	AXX1026	AXX1027	

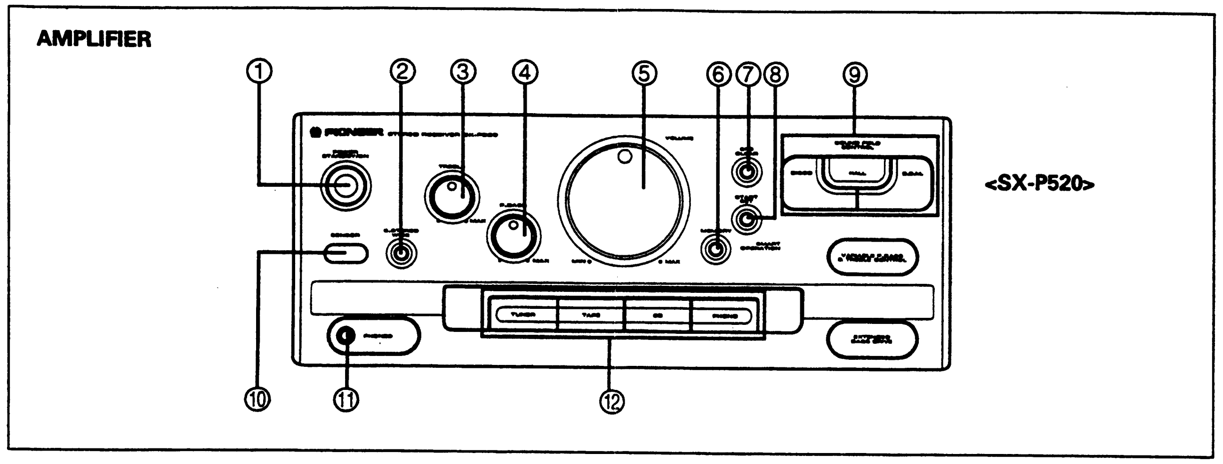
NOTE :
PCB connection diagram for HEWZI type, refer to page 11.

8.2 SCHEMATIC DIAGRAM
(TUNER assembly : For HEWZI type)


1
2
3
4
5
6
A
B
C
D
TUNER assembly (AWZ3939)
FM FRONT END
4 Serial F. E. Module assembly (AXQ1004)
ANT
GND
ACC
VT
+B
IF
OSC
Q909 : BUFFER
2SC2656
F903 ATF-119
F905 ATF-107
S-METER
TP904
VCO
TP905
#1
Vcc (12V)
Q911 : AMP
2SC2458
F906
ATF1068
FM 75ohm (PAL)
AM
AKA1012
JP11
JP12
Q907 : MW ON/OFF
Q905 : FM F.E ON/OFF
RN2201
JP6
H53104-02
D911
D910
F904
IFT ADJ.
ATF1042
TUNED IND. ADJ.
VCO ADJ.
ACP1016
ACE1039
IC903 : FM MPX
AN7470P
IC902
LA1265З
IC902 : FM/AM IF DET
TUNED IND. ADJ.
D909
L907
ATE-079
CENTER ADJ.
X902
ATF1027
TC901 : TRACKING ADJ.
AXX1027
MW BLOCK
ANT. COIL :
TRACKING ADJ.
ACH-016
JP1
JP2
JP3
JP4
JP5
VT
TP903
Q910 : RIPPLE FILTER
2SC2458
Q917
2SK246
PLL(1:3)
CN10
KPE10
LC8100 START
(9K/10K) LOCAL
FM MONO
TUNE
STEREO
PLL/1067 CLK
PLL/1067 DATA
PLL CE
-5V
+5V
To FRONT assembly J10 (→ P34)
IC901 : PLL
IC901
LM7001
CE
CL
DA
LW
MW
FM
X901
ASS1042
Q901
2SK246
Q902
2SC1740SLN
Q901, Q902 : LOOP FILTER
L908
CN4
L
GND
R
GND
+5V
+12V
-5V
GND
REC OUT MUTE
VOCAL/INST
To POWER assembly CN4 (→ P18)
TP901
VREF
TP902
T-METER

9. PANEL FACILITIES

AMPLIFIER



AMPLIFIER

① POWER STANDBY/ON switch

This is the switch for electric power.

ON: When set to the ON position, power is supplied and the unit becomes operational.

STANDBY: When set to the STANDBY position, the main power flow is cut and the unit is no longer fully operational. A minute flow of power feeds the unit to maintain operation readiness. (The display shows only the time.)

② S.STEREO WIDE button

③ TREBLE button (SX-P420)
TREBLE control(SX-P520)

④ P.BASS control

⑤ VOLUME control

⑥ SMART OPERATION MEMORY button

⑦ SFC CLEAR button

⑧ SMART OPERATION START/SET button

⑨ SOUND FIELD CONTROL buttons (DISCO, HALL, B.G.M.)

⑩ Remote sensor window (SENSOR)

⑪ Headphones jack (PHONES)

⑫ Input selector buttons (TUNER/TAPE/CD/PHONO)

Auto Function

This model is equipped with "Auto Function" operation, so when the switch for CD PLAY, RANDOM, PLAY (tape), +/– (tuner up/down) or BAND is pressed, the function switches automatically. Use the PHONO function button to select the component connected to the PHONO jacks, since Auto Function is not effective for this.

NOTE:

The function cannot be switched during recording except for tape copying. (Auto Function does not operate either.)

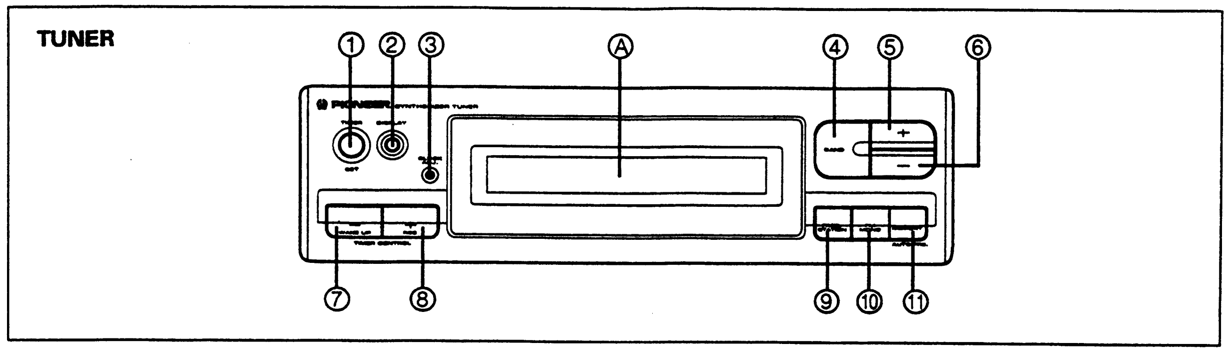
Demo Function

To enter the demo mode, press SFC CLEAR when power is STANDBY. The power is automatically turned on. In the demo mode, various functions of this system appear on the display. When a program source is selected, you can enjoy listening to the selected source simultaneously.

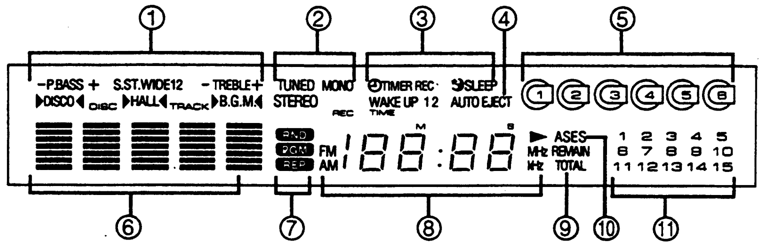
To cancel demo mode:

Press any buttons of the amplifier or remote control unit.

TUNER



Ⓐ DISPLAY



TUNER

① TIMER SET button

② DISPLAY button

③ CLOCK ADJ. button

Ⓐ Display

④ BAND button

⑤ + (tuner up) button

⑥ – (tuner down) button

⑦ TIMER CONTROL WAKE UP/– button

⑧ TIMER CONTROL REC/+ button

⑨ FREQ./STATION button

⑩ FM MONO button

⑪ AUTO PRE. MEMORY button

Ⓐ DISPLAY

① Sound field control indicators

Display the SOUND FIELD CONTROL settings.

② Tuner indicators

Indicate the tuning mode.

③ Timer indicators

Display timer settings.

④ AUTO EJECT indicator (For PDC-P520T)

Lights when AUTO EJECT function is ON.

⑤ Disc number indicators (For PDC-P520M and PDC-P520T (No.1 and No. 2 only)**)**

⑥ Function display

Normally functions as a spectrum analyzer.
Also, this displays the selected function. In the TUNER mode, this displays the station No., and when playing a CD it displays the track No.

⑦ RND: Lights during random play for CD player.

PGM: Lights during program input and program play for CD player.

REP: Lights during repeat play for CD player.

⑧ Frequency/Time display

In TUNER mode, frequency is displayed. In any other mode it displays the time.

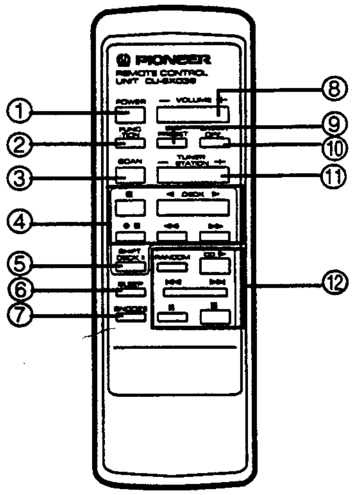
⑨ REMAIN/TOTAL indicator (For CD player)

In CD mode, "REMAIN" shows the remaining play time and "TOTAL" shows the total play time.

⑩ ASES (Auto Synchro Editing System) indicator

Lights when A.S.E.S. is performed.

⑪ Music calendar (For CD player)



- The illustration shows the remote control unit supplied with the SX-P420 model.

REMOTE CONTROL UNIT

① **POWER button**

② **FUNCTION button**

Each time this button is pressed, the function changes in the following sequence: TUNER → TAPE → CD → PHONO → TUNER.

③ **SCAN button**

In TUNER mode: This button is used for scanning preset stations.
In CD mode: This button is used for Hi-Lite Scan.

④ **DECK I/II operation buttons (◄ ► Play, ■ Stop, ◄◄ ►► Fast, ● II Rec pause)**

⑤ **SHIFT DECK II button**

To operate Deck II, press the desired deck operation button while pressing this button.

⑥ **SLEEP button**

⑦ **SNOOZE button**

⑧ **VOLUME –/+ button**

⑨ **SFC PRESET button**

Each time this button is pressed, the SOUND FIELD CONTROL setting changes in the following sequence: DISCO → HALL → B.G.M. → SFC clear.

⑩ **SMART OPE. button**

⑪ **TUNER STATION –/+ button**

⑫ **CD operation buttons (► Play, ■ Stop, II Pause, |◄◄ ►►| Track search, RANDOM** (For SX-P420/PDC-P420), **DISC** (For SX-P520/PDC-P520T and PDC-P520M))